

Health Care Utilization and Expenditures in the Arab Republic of Egypt

January 1998

Prepared by:

Peter Berman, Ph.D.
Harvard School of Public Health

A. K. Nandakumar, Ph.D.
Harvard School of Public Health

Winnie Yip, Ph.D.
Harvard School of Public Health



Partnerships
for Health
Reform



Abt Associates Inc. ■ 4800 Montgomery Lane, Suite 600
Bethesda, Maryland 20814 ■ Tel: 301/913-0500 ■ Fax: 301/652-3916

In collaboration with:

Development Associates, Inc. ■ Harvard School of Public Health ■
Howard University International Affairs Center ■ University Research Co., LLC



Funded by:
U.S. Agency for International Development



Partnerships
for Health
Reform

Mission

The Partnerships for Health Reform (PHR) Project seeks to improve people's health in low- and middle-income countries by supporting health sector reforms that ensure equitable access to efficient, sustainable, quality health care services. In partnership with local stakeholders, PHR promotes an integrated approach to health reform and builds capacity in the following key areas:

- ▲ *better informed and more participatory policy processes in health sector reform;*
- ▲ *more equitable and sustainable health financing systems;*
- ▲ *improved incentives within health systems to encourage agents to use and deliver efficient and quality health services; and*
- ▲ *enhanced organization and management of health care systems and institutions to support specific health sector reforms.*

PHR advances knowledge and methodologies to develop, implement, and monitor health reforms and their impact, and promotes the exchange of information on critical health reform issues.

January 1998

Recommended Citation

Berman, Peter, A. K. Nandakumar and Winnie Yip. January 1998. *Health Care Utilization and Expenditures in the Arab Republic of Egypt*. Technical Report No. 25. Bethesda, MD: Partnerships for Health Reform Project, Abt Associates Inc.

For additional copies of this report, contact the PHR Resource Center at PHR-InfoCenter@abtassoc.com or visit our website at www.phrproject.com.

Contract No.: HRN-C-00-95-00024
Project No.: 936-5974.13

Submitted to: USAID/Cairo

and:
Robert Emrey, COTR
Policy and Sector Reform Division
Office of Health and Nutrition
Center for Population, Health and Nutrition
Bureau for Global Programs, Field Support and Research
United States Agency for International Development

Abstract

This report presents results from the Egypt Household Health Care Use and Expenditure Survey (EHHUES) carried out 1994–1995. Objectives included estimating: rates of self-reported illness and health care services used; providers chosen; health care expenditures; and perceptions of quality of care and problems and issues of the health system.

The survey collected data on socio-demographic characteristics, health status, insurance coverage, factors affecting the decision to seek care, utilization of services, choice of provider, and expenditures. Questions on individuals' perceptions of quality and their ability to perform activities of daily living were included.

Findings included that men and younger individuals were more likely to believe they enjoyed good health. The poorest were less likely to perceive their health status as bad and to take time off due to ill health. There were significant differences in utilization by income, age and region, but not between men and women. Cost was a major reason for non-utilization of services. Of annual per capita health expenditure, 64 percent was spent on outpatient care, 31 percent on self-purchased drugs, and 5 percent on hospital-based inpatient care. Urban individuals, the richest, and the insured spent the most. Across all types of medical problems, results indicate a preference for private providers.

Table of Contents

Acronyms.....	xi
Acknowledgments	xiii
Executive Summary.....	xv
1. Introduction	1
1.1 DDM in Egypt	1
1.2 Objectives of the EHHUES	2
1.3 Why This Survey Now in Egypt?	3
2. Implementation of the Survey	5
2.1 Survey Design and Sampling.....	5
2.1.1 Sample Selection	5
2.1.2 Questionnaires	5
2.1.3 Sample Coverage and Response Rates	6
3. Household Socio-Economic Characteristics.....	9
3.1 Housing Characteristics.....	9
3.2 Household Possessions.....	11
4. Individual Socio-Economic Characteristics	13
4.1 Occupation.....	14
4.2 Rural/Urban Distribution of Individuals by Income Quintiles	14
5. Individual Illness Events	15
5.1 Reported Incidence of Illness in the Past Two Weeks	15
5.2 Self Assessment of Health Status.....	16
5.3 Number of Days Lost Due to Ill Health	17
5.4 Chronic Health Conditions	18
6. Risk Factors and Activities of Daily Living	21
6.1 Prevalence of Smoking.....	21
6.2 Difficulty in Performing Activities of Daily Living (ADLs).....	22
7. Health Insurance Coverage in Egypt.....	25
7.1 Insurance Coverage by Geographic Areas	25
7.2 Insurance Coverage by Socio–Demographic Factors	26
7.2.1 Gender.....	26
7.2.2 Income.....	26

8.	Utilization of Health Care Services in Egypt	27
8.1	Utilization of Health Services by Geographic Regions.....	29
8.2	Utilization of Health Care Services According to Different Social, Economic, and Demographic Characteristics of Individuals	30
8.2.1	Gender.....	30
8.2.2	Age	31
8.2.3	Income.....	32
8.2.4	Education	33
8.3	Utilization by Occupation.....	34
8.4	No Utilization	35
8.5	International Comparison	36
8.6	Women's Utilization of Health Services.....	38
8.6.1	Differences in Utilization Between Males and Females	38
8.6.2	Impact of Earning Capacity on Health Care Utilization by Women	38
9.	Choice of Provider by Health Care Service Users.....	41
9.1	Choice of Provider by Geographic Regions	44
9.2	Choice of Provider by Socio-Demographic Factors.....	46
9.2.1	Choice of Provider by Gender.....	46
10.	The Effects of Insurance Status on the Choice of Provider.....	51
11.	Expenditures on Health Care.....	53
12.	Health Care Expenditure by Socio-Demographic Factors	57
12.1	Health Care Expenditure by Gender	57
12.2	Health Care Expenditure by Age	57
12.3	Expenditure by Education.....	58
12.4	Expenditure by Household Income	59
12.5	The Effect of Insurance Coverage on Health Care Expenditures	60
13.	Seasonal Differences in Health Care Utilization and Expenditure	61
14.	Prices of Medical Services	63
15.	Quality of Care	65
15.1	General Perceptions of Quality.....	65
16.	Quality of Care By Provider Type.....	67
	Annex A: Sample Information	75
	Annex B: Bibliography.....	79

List of Tables

Table 1: Households and Individuals Sampled and Interviewed in EHHUES	6
Table 2: Distribution of Households by Region and Estimated Annual Consumption Expenditures (in LE)*.....	7
Table 3: Percentage Distribution of Households by Housing and Sanitation Characteristics.....	10
Table 4: Percentage Distribution of Households Reporting Possession of Durable Goods.....	12
Table 5: Percent Distribution of Individuals By Various Characteristics.....	13
Table 6: Distribution of Formally Employed Individuals by Occupation	14
Table 7: Urban/Rural Distribution of Individuals by Income Quintiles	14
Table 8: Percentage of Individuals Reporting an Episode of Illness	15
Table 9: Perception of Health Status (in Percentages).....	16
Table 10: Number of Days Lost Due to Ill Health in Last Six Months (In Percentages)	17
Table 11: Chronic Health Problem for At Least Three Months (In Percentages)	18
Table 12: Percentage of Individuals Age Sixteen and Over Who Currently Smoke.....	21
Table 13: Smoking Prevalence Rates Among Adult Males in Other Countries	22
Table 14: Difficulty in Performing Specific ADLs (In Percentages)	23
Table 15: Percentage of Population with ADL Deficiencies	23
Table 16: Difficulty in Performing Activities of Daily Living (Males)	24
Table 17: Difficulty in Performing Activities of Daily Living (Females).....	24
Table 18: Health Insurance Coverage.....	25
Table 19: Insurance Coverage by Socio–Demographic Factors	26
Table 20: Annual Utilization Rate Per Capita.....	28
Table 21: Utilization Rate Per Capita by Insurance	34
Table 22: Utilization by Occupation (Expenditure in LE).....	35
Table 23: Reasons For Not Seeking Care.....	36
Table 24: International Comparison of Utilization Rate.....	37

Table 25: Male/Female Utilization Differentials	38
Table 26: Impact of Earning Capacity on Women's Utilization.....	39
Table 27: Impact of Mother's Education on Children's Utilization	39
Table 28: Percentage Distribution of Outpatient Visits by Provider Type	41
Table 29a: Distribution of Hospital Admissions by Provider Type	42
Table 29b: Comparison of Choice of Provider for Those With or Without Insurance (Excluding School Children)	51
Table 30: Annual Expenditures on Health Services Per Capita (In LE).....	53
Table 31: Annual Averaged Health Expenditures by Individual Insurance Status	60
Table 32: Seasonal Differences in Health Care Use and Expenditure Ratio of Winter to Summer Survey Results.....	61
Table 33a: Average Outpatient Expenditure per Visit (in LE).....	63
Table 33b: Average Hospital Admission Expenditures per Hospitalization (in LE).....	63
Table 34: General Perceptions of Health Care Quality	65
Table 35a: Revealed Preferences for Provider Type—Minor Illness.....	68
Table 35b: Revealed Preferences for Provider Type—(Minor Surgery).....	69
Table 35c: Revealed Preferences for Provider Type—(Major Surgery)	70
Table 36: Comparison of Quality of Care by Provider Type—(Outpatient Visits).....	72
Table 37: Comparison of Quality of Care by Provider Type—(Hospital Admissions).....	73

List of Figures

Figure 1: Population Reporting Illness and Treatment.....	27
Figure 2: Annual Per Capita Outpatient Visit Rate by Region	29
Figure 3: Annual Per Capita Hospital Admission Rate by Region	30
Figure 4: Annual Per Capita Outpatient Visit Rate by Gender	30
Figure 5: Annual Per Capita Outpatient Visit Rate by Age Group	31
Figure 6: Annual Per Capita Hospital Admission Rate by Age Group	32
Figure 7: Annual Per Capita Outpatient Visit Rate by Income	32

Figure 8: Annual Per Capita Hospital Admission Rate by Income	33
Figure 9: Annual Per Capita Outpatient Visit Rate by Education	33
Figure 10: Annual Per Capita Hospital Admission Rate by Education	34
Figure 11a: Choice of Provider—Outpatient Visits	43
Figure 11b: Choice of Provider—Hospital Admissions	43
Figure 12a: Choice of Provider—Outpatient Consultations in Urban Areas.....	44
Figure 12b: Choice of Provider—Outpatient Consultations in Rural Areas.....	44
Figure 13a: Choice of Provider—Hospital Admissions in Urban Areas	45
Figure 13b: Choice of Provider—Hospital Admissions in Rural Areas	45
Figure 14a: Choice of Provider—Outpatient Visits (Male).....	46
Figure 14b: Choice of Provider—Outpatient Visits (Female)	47
Figure 15a: Choice of Provider—Hospital Admissions (Male).....	47
Figure 15b: Choice of Provider—Hospital Admissions (Female)	48
Figure 16: Choice of Provider—Outpatient Visits (By Income).....	48
Figure 17: Choice of Provider—Hospital Admissions (By Income).....	49
Figure 18: Annual Per Capita Health Expenditure by Urban/Rural.....	54
Figure 19: Annual Per Capita Health Expenditures by Region.....	55
Figure 20: Annual Per Capita Health Expenditures by Gender	57
Figure 21: Annual Per Capita Health Expenditures by Age	58
Figure 22: Annual Per Capita Health Expenditures by Education	58
Figure 23: Annual Per Capita Health Expenditures by Income	59
Figure 24: Percentage of Per Capita Income Spent on Health Care.....	59

Acronyms

ADLs	Activities of Daily Living
CAPMAS	Central Agency for Population Mobilization and Statistics
DDM	Data for Decision-Making Project
DHS	Demographic and Health Surveys
EGHUES	Egypt Household Health Care Use and Expenditure Survey
HIO	Health Insurance Organization
LE	Egyptian Pound
MOHP	Ministry of Health and Population
PHR	Partnerships for Health Reform Project
SHIP	School Health Insurance Program
USAID	United States Agency for International Development

Acknowledgments

This survey and its analysis was financed as part of USAID-Egypt's Cost Recovery for Health Project and Harvard University's Data for Decision-Making Project (DDM) (Cooperative Agreement # DPE-5991-A-00-1052-00). It was planned, implemented, and analyzed in cooperation between the Department of Planning, Ministry of Health and Population, Arab Republic of Egypt, the Harvard School of Public Health, and the Cairo Demographic Center. At the request of USAID-Egypt this analysis was completed and is being disseminated through the Partnerships for Health Reform project to ensure broader access to the results.

The project benefited greatly from the interest and oversight of two Ministers of Health. It was initiated and implemented under the supervision of Professor Ali Abdel Fattah and completed under the current Minister of Health and Population, Professor Ismail Sallam. We are grateful to both of them for their constant support. Dr. Moushira El Shafei was Director of Planning during most of the survey work. Dr. Moushira sustained her interest and involvement in this large effort despite its long duration. With her encouragement, we quickly produced and publicly presented the first round of descriptive results which have been widely disseminated in Egypt's health policy reform discussions (see Berman et al Egypt: Strategies for Health Sector Change, DDM Project, 1995). The survey design, implementation, and analysis was possible because of the excellent work done by our colleagues at the DDM Project at the Department of Planning, Ministry of Health. Dr. Affaf Osman was the coordinator for the DDM project during most of the survey work and contributed greatly to the design and implementation of the survey.

Dr. Hisham Makhoul, Director of the Cairo Demographic Center, provided oversight to the survey design and analysis. His participation greatly enhanced the quality of our work. Dr. Fatma El Zanaty of Cairo Demographic Center and her colleagues participated in the survey design and were responsible for fielding the survey at the national level, entering the data, and initial analysis. Their work was of exceptional quality and we would like to acknowledge their contribution to this activity. Dr. Fatma El Zanaty continues to be part of the core team analyzing the data.

We would like to acknowledge the contribution and guidance provided by Ms. Mellen Tanamly, Director of the Health Office at USAID, Mr. Carl Abdou Rahmaan, CRHP Project Officer at USAID, and Dr. Sameh El Gayyar, DDM Project Office at USAID. Their assistance and support was essential for making this large survey successful.

This report was drafted largely by the survey analysis team at Harvard, including Dr. Peter Berman, Dr. A.K. Nandakumar, and Dr. Winnie Yip. They were assisted by Yu Jing, Nadine Wei, and Claudia Blanco. The survey data are available for further analysis at the Department of Planning, Ministry of Health and are already being used for additional work in Egypt.

Executive Summary

Introduction

This report presents a wide range of basic tabulations from the Egypt Household Health Care Use and Expenditure Survey carried out in 1994–1995. The survey was funded by the United States Agency for International Development and carried out by the Ministry of Health and Population, the Data for Decision Making Project, and the Cairo Demographic Center. The fieldwork, data entry, and preliminary analysis were carried out under the supervision of Dr. Fatma Zenaty of the Cairo Demographic Center. The survey methodology is described and basic statistics on the sample population are presented. Tabulations and descriptive analysis from most sections of the survey instruments are provided, along with some discussion of key findings of policy and programmatic interest.

The goal of the EHHUES was to provide up-to-date and valid essential data describing the use of health care services, choice of provider, spending on health care, and the demographic, socio-economic, and behavioral determinants of health care use and spending in Egypt. Specific objectives of the survey included estimating: rates of self-reported illness for the population and specific sub-groups in the population; rates and quantities of health care services used by those reporting acute and chronic illnesses; types of providers used for different types of health problems and for different population groups; amounts spent on seeking health care treatment; perceptions of quality of care for different types of providers; and perceptions of problems and issues of the health care system.

The health goals of the government of Egypt emphasize the elimination or reduction of a variety of important public health problems and the reduction of inequalities in health and access to good quality health care throughout the country. Under the constitution every Egyptian is guaranteed access to health care.

Egypt has a pluralistic health care system with multiple sources of financing and provision of health care services. In order to meet its commitments the government has established an extensive system of government-owned and operated hospitals and health clinics of various types. Services at these facilities are for the most part, free, with minimal user fees. Social insurance for the formal sector and school children is under the Health Insurance Organization (HIO) and covers about 30 percent of the population. The HIO owns and operates its own facilities. Other major government providers include university hospitals (under the Ministry of Education) and the Curative Care Organization (an autonomous public sector entity). At the same time, Egypt has a large, rapidly expanding, and largely unregulated private health care sector.

There was anecdotal evidence that private health care was widely used, even by poor and rural populations. Most government-employed physicians also maintain a private practice. Lack of valid and reliable information on health care use was identified as a major constraint by the Ministry of Health and Population in identifying health needs and access throughout the country, and in estimating the burden on families of their efforts to meet these needs. The purpose of the survey was to fill this information gap. In addition, the related social and economic characteristics of individuals and families collected through the survey can be used to develop predictive models of people's responses to new government interventions, such as expanded insurance, new fees or charges, and

improvements to access and quality of care. The current survey has documented some of the very dramatic differences across Egypt in perceived health needs, treatment-seeking behavior, and household financing of health care needs. It is being used to estimate the demand-side response of different reform strategies. Data from the household survey have contributed to both rounds of the National Health Accounts as well as the development of a Primary Health Care focused reform strategy currently being implemented in Egypt.

Sample, Questionnaires, and Response Rates

The population sample was drawn to represent Egypt's population at the national level as well as the five regions of the country: urban governorate, rural Lower Egypt, rural Upper Egypt, urban Lower Egypt, and urban Upper Egypt, according to the categories defining these regions used by the government.

The survey collected data on the socio-demographic characteristics of the household, the health status of each household member, insurance coverage, factors affecting the decision to seek care, utilization of outpatient and inpatient services, choice of provider, and out-of-pocket expenditures on health care. A set of questions on individuals' ability to perform activities of daily living were also included, as were questions on perceptions of quality of health care. To adjust for seasonal differences, the survey was carried out in two rounds, one in winter and one in summer. The sampling frame consisted of 546 segments (208 rural and 338 urban) covering 21 governorates. Of this, a self-weighted sample of 362 segments (191 urban and 171 rural) was selected for the survey. Half of the sample was selected from each segment for the winter round of the survey and the other half was surveyed in the summer round.

A household questionnaire and two types of individual questionnaires (one for individuals below the age of 16 and the other for those age 16 and older) were used in data collection. The individual questionnaires cover the individual's perception of his or her health status, employment, income, utilization of health services, and expenditures on health care. A two-week recall was used for outpatient care and a one year recall was used for hospitalization.

A total of 10,664 households were selected for the survey with a response rate of 93.13 percent. There were 53,824 individuals living in the interviewed households. Of these, 50,824 were actually interviewed, which is a response rate of 94.72 percent. The overall response rate for the individual questionnaire was 88.21 percent.

Key Findings

Men were more likely to believe that they enjoyed either very good or excellent health than women, as did individuals in lower age groups when compared to those in older age groups. Women were more likely to have taken time off due to ill health than men. Individuals in the lowest income quintile were both less likely to perceive their health status as poor and to take time off due to ill health. Sixteen percent of individuals reported having had a chronic health condition for at least three months.

Approximately 31 percent of Egypt's population is covered by health insurance, due largely to the introduction of the School Health Insurance Program in 1993. Only about 15 percent of individuals above 18 years of age are covered by health insurance. While in urban areas about 20 percent of those over 18 are insured, coverage in rural areas is only 10 percent. Males are much more

likely to have health insurance than females. Non-school age individuals in the highest income quintile are 3.5 times as likely to be covered by health insurance as those in the lowest quintile.

On average, Egyptians had 3.5 outpatient visits per year. This is a fairly high rate of utilization when compared with other countries at the same level of socio-economic development. However, there were significant differences in utilization rates by income, age and geographic region. Individuals in urban areas had 1.6 times the number of outpatient visits as those in rural areas. Those living in urban governorates reported the highest rate of utilization, twice as high as those living in either the Upper or Lower governorates. Utilization did not differ significantly between men and women. Individuals in the 50–59 year age groups and young children were the highest users of outpatient services. As expected, outpatient visit rates were positively correlated with income level. An interesting finding was a drop in utilization rate for the elderly. One would expect the health needs of this population to be greater than those in the age group 50–59. This is probably due to the cost of care and points to there being significant unmet needs for this age group.

Egyptians averaged a 2.7 percent admissions rate per year. Hospitalization rates were twice as high in urban as in rural areas. In contrast to outpatient services, hospitalization rates were higher in Upper Egypt than in Lower Egypt. There were no significant differences in hospital admission rates between men and women. An interesting find was that individuals over 60 years of age had fewer hospitalizations than those in the working-age group. This could indicate the high cost of care for services required by this age group and may mean that health needs are not being met. The richest individuals used hospital services twice as much as the poorest, and having insurance significantly increased hospital use. Individuals with university level education had the lowest admission rates. People working in the professional/managerial fields had the highest utilization rates.

Cost was a major reason for non-utilization of both outpatient and inpatient services, despite the existence of a largely free public health system. Having insurance significantly increases utilization rates for both outpatient and hospital admission services. However, multivariate analysis will be necessary to see whether these reflect income effects rather than the impact of insurance on demand. People in the professional/managerial category had the highest utilization rates and health expenditures. Women with higher incomes tend to use more health care services, and children of mothers with university degrees had twice as many outpatient visits as those whose mother only had a primary education.

The government dominates the provision of hospital-based care while the private sector predominates the provision of primary illness care. Rural residents were more likely to use private providers for outpatient care and public providers for inpatient care than urban residents. Males are more likely to use public facilities than females, probably because they are more likely to have insurance coverage through their employment than females. In general, the demand for private care increased significantly with income. Individuals with insurance were more likely to use public facilities for hospitalization, but 41 percent of these chose private providers for outpatient treatment.

The average annual per capita health expenditure was 93.3 LE. Of this 64 percent is spent on outpatient care, 31 percent on self-purchased drugs, and 5 percent on hospital-based inpatient care. Urban individuals spent nearly 1.8 times as much annually on health care as rural individuals. Individuals in Urban Governorates spent almost twice as much as individuals in Rural Lower Egypt and three times as much as those in Rural Upper Egypt.

Health care spending increases positively with age except for children under four years old. As expected, individuals in the highest income quintile spent more than twice as much as those in the next highest quintile and 5 times as much as those in the lowest quintile. However, the burden of

health expenditures is inequitably distributed with household in the lowest income quintiles spending a higher percentage of household income on health care when compared with households in the higher income quintiles. For example, those in the lowest income quintile spent 9.9 percent of their income on health, while those with the most income spent 7.4 percent of their earnings on health. Those with insurance spent slightly more than those without insurance but had twice as many visits. Private providers charge significantly more than government providers, but expenditure is surprisingly high in the public sector, given that these services are provided without a physician fee. This probably reflects the lack of drugs at these facilities.

Only 55 percent of the sample were satisfied with the medical care they received, although most individuals were satisfied with cleanliness and medical staff competence. Across all types of medical problems, individuals using private providers were more likely to stay with their current providers if given a choice to switch, while users of providers in Ministry facilities were most likely to switch. The results indicate a preference for private providers.

Organization of the Report

The report explains the objectives of the survey and describes its design and implementation. Household and individual characteristics are discussed, followed by statistics on health and the factors that affect health and activities of daily living. Health care seeking behavior data include health insurance coverage, utilization of health care services, choice of health care providers, expenditures on health care, perceptions of quality, and descriptions of other factors that affect health care utilization. The questionnaire is included in the Annex.

1. Introduction

This report presents a wide range of basic tabulations and analyses from the Ministry of Health—Data for Decision-Making Project Egypt Household Health Care Use and Expenditure Survey (EHHUES) carried out in 1994-1995. It is intended as a general survey report. The survey methodology is described and basic statistics on the sample population are presented. Tabulations and descriptive analysis from most sections of the survey instruments are provided, along with some discussion of key findings of policy and programmatic interest.

More extensive analyses of the survey data are continuing even as this report is completed and circulated. These will include a variety of more focused studies, many of them using multivariate methods. These will be issued as survey reports as the results become available.

Readers of this report are also advised to consult the recent Demographic and Health Surveys (DHS) reports from Egypt, especially the latest (1995) survey. The population sample used in the EHHUES was drawn from the same sample frame as that used for the DHS surveys. National and regional estimates from these two surveys should be statistically comparable.

1.1 DDM in Egypt

The Data for Decision-Making Project (DDM) began working in Egypt at the invitation of the Ministry of Health and Population (MOHP) and with the support of the United States Agency for International Development (USAID) mission in Cairo. Under the auspices of the Cost Recovery for Health Project, the Ministry had been developing several reform strategies addressing issues of health care financing and improvements to the efficiency and quality of services. These innovations included improvements to public hospitals accompanied by introduction of fees; finance and management improvements to the Curative Care Organizations and the Health Insurance Organization; and subsidized loans to young physicians to enable them to establish private practices and forego government employment. Other concurrent projects in Egypt had greatly expanded the coverage of family planning and child survival services. The government of Egypt dramatically increased health insurance coverage by rapidly extending it to school-going children throughout the country.

DDM was invited to work with the Department of Planning in the Ministry of Health and Population to help strengthen the information base for developing new policy strategies, including a national program of health sector reform. A joint review of available information identified several critical gaps in data on health care financing, health care provision, and household patterns of service use and spending.

Data on these elements is essential for proper planning of new system financing and intervention strategies.

The DDM project in Egypt, based at the Department of Planning, MOHP, has developed the following analyses for use in policy development:

National health accounts: an analysis of national health expenditures in the public and private sectors;

Budget tracking system: a MOHP financial information system for assessing the allocation of decentralized government budgets across different health care services;

Cost and cost-effectiveness analysis of key health interventions;

Political feasibility analysis of health reform;

A national household health care utilization and expenditure survey (the subject of the current report);

A national survey of health care providers in the public and private sectors.

Using results from these investigations, DDM prepared a policy strategy paper, Egypt: Strategies for Health Sector Change. This document has been used as the basis for extensive discussion of health policy reform strategies in Egypt, which are continuing at the present time.

1.2 Objectives of the EHHUES

The goal of the EHHUES was to provide up-to-date and valid essential data describing the use of health care services, spending on health care, and a variety of social, economic, and behavioral determinants of health care use and spending in Egypt.

Specific objectives of the survey included estimating:

Rates of self-reported illness for the population and specific sub-groups in the population;

Rates and quantities of health care services used by those reporting acute and chronic illnesses;

Types of providers used for different types of health problems and for different population groups;

Amounts spent on seeking health care treatment;

Perceptions of quality of care for different types of providers;

Perceptions of problems and issues of the health care system.

As with any substantial multi-purpose survey, the data collected will permit a wide variety of different analyses.

The population sample was drawn to represent Egypt's population at the national level as well as the five regions of the country: urban governorate, rural Lower Egypt, rural Upper Egypt, urban Lower Egypt, and urban Upper Egypt, according to the categories defining these regions used by the government. Two survey rounds were done to capture variations relating to summer and winter, the two distinct seasons in Egypt.

1.3 Why This Survey Now in Egypt?

The health goals of the government of Egypt emphasize the elimination or reduction of a variety of important public health problems and the reduction of inequalities in health and access to good quality health care throughout the country. There is an extensive system of government-owned and operated hospitals and health clinics of various types. The Health Insurance Organization (HIO) now covers about 30 percent of the population, including all school-going children since 1993. HIO provides most covered services in its own facilities.

Egypt also has a large and ubiquitous private health care sector. There was anecdotal evidence that private health care was widely used, even by poor and rural populations. Most government-employed physicians also maintain a private practice. But there had never been a comprehensive picture of household health care use or of spending in the government, public, and private sectors based on a valid national sample.

The last major surveys of these issues had been carried out as part of the Health Profiles of Egypt studies in the early 1980s (Jeffers 1982). These studies combined a smaller clinical survey of health needs with a larger survey of household health care use and health related behaviors. While the clinical survey was quite successful, and is one of the larger such efforts completed in a developing country, the household use and behavior survey was only of limited value. Our review of that experience suggested that much of the instrument was not well designed for the Egyptian context (it was taken almost verbatim from a U.S. survey). Extensive analysis was done of the data on health-related behavior and risk factors, such as smoking. But the data on health care use was never adequately analyzed or disseminated. We were informed that it was generally felt those data were of poor quality.

Lack of recent information on health care use and spending meant that government planners were in the dark about what share of total health care use they were providing. Such information is essential to documenting differences in health needs and access throughout the country, and to estimating the burden on families of their efforts to meet these needs. In addition, the related social and economic characteristics of individuals and families collected in such studies could be used to develop predictive models of peoples' responses to new government interventions, such as expanded insurance, new fees or charges, and improvements to access and quality of care. The current survey has documented some of the very dramatic differences across Egypt in perceived health needs, treatment-seeking behavior, and household financing of health care needs. It is being used to estimate the demand-side response and population effects of different reform strategies.

In addition, the household survey was coordinated with a national survey of health care providers—the first of its kind to document the size and composition of the non-government provision sector. Together these two data sources are providing a substantive basis for planning Egypt's health sector reform program.

2. Implementation of the Survey

The Egypt Household Health Care Use and Expenditure Survey (EHHUES) was developed as a collaborative effort between the Ministry of Health and Population (MOHP), the Data for Decision-Making (DDM) project at the Harvard School of Public Health, and the Cairo Demographic Center (CDC). All three parties collaborated on the questionnaire development and survey and sample design. CDC carried out the field pre-testing, the data collection, and data cleaning and preliminary analysis. Further tabulations and data analysis have been done by teams at Harvard and the MOHP.

2.1 Survey Design and Sampling

The survey collected data on the socio-demographic characteristics of the household, the health status of each member of the household, insurance coverage, factors affecting the decision to seek care, utilization of outpatient and inpatient services, choice of provider, and out-of-pocket expenditures on health care. In addition a set of questions on an individual's ability to perform activities of daily living were included, as were questions on individual perceptions of the quality of health care.

In order to adjust for seasonal differences the survey was carried out in two rounds, one in winter and one in summer. The first round of the survey was conducted from November 1994 to early February 1995; the second from July 1995 to August 1995.

2.1.1 Sample Selection

The sample for the survey was designed to provide national estimates of all major variables as well as estimates for different types of areas and for the five geographic regions: Urban Governorates, rural Lower Egypt, urban Lower Egypt, rural Upper Egypt, and urban Upper Egypt.

The sampling frame used was the same as that of the Egypt Demographic and Health Survey, 1992. The frame consisted of 546 segments (208 rural and 338 urban) covering 21 governorates. Out of this a self-weighted sample of 362 segments (191 urban and 171 rural) was selected for the survey. A complete listing of all households in the selected segments was made and a systematic sample of households was selected. Half of the sample was selected from each segment for the winter round of the survey and the other half was surveyed in the summer round. In addition, a sample was selected from the frontier governorate as a pilot study. The analysis of the frontier governorate will be presented separately as a case study and does not form part of this study.

2.1.2 Questionnaires

Two types of questionnaires were used in data collection: the household questionnaire, and the individual questionnaire. The household questionnaire was designed to collect socio-demographic information on all members of the household who are usual residents. Two individual questionnaires were used: one for individuals below the age of sixteen and the other for those age sixteen and older. The individual questionnaires cover the individual's perception of his or her health status,

employment, income, utilization of health services, and expenditures on health care. A two-week recall was used for outpatient care and a one-year recall was used for hospitalization.

2.1.3 Sample Coverage and Response Rates

Table 1 shows the sample coverage and household as well as individual response rates. A total of 10,664 households were selected for the survey. Of these 9,931 were successfully interviewed giving a response rate of 93.13 percent. There were 53,824 individuals living in the interviewed households. Of these, 50,824 were actually interviewed which is a response rate of 94.72 percent. The overall response rate for the individual questionnaire was 88.21 percent.

Table 1: Households and Individuals Sampled and Interviewed in EHHUES

Result of Interview (Response Rate)	Number	Percent
Households Selected	10664	100.00
Interviewed	9931	93.13
No competent person at household	336	3.15
Postponed	2	0.02
Refused	78	0.73
HH not found	2	0.02
Household head absent	163	1.53
Dwelling vacant/no dwelling	104	0.98
Dwelling Destroyed	6	0.06
Other	42	0.39
Individuals in interviewed households	53824	100.00
Completed	50824	94.72
Partly Completed	3	0.01
Not at Home	2587	4.81
Incapacitated	14	0.03
Postponed	53	0.10
Refused	101	0.19
Other	82	0.15
Household Response Rate		93.13
Individual Response Rate		94.72
Overall Response Rate		88.21

Table 2 shows the distribution of the households interviewed in the survey by region and annual expenditure. It is clear that nearly half of the sample is from urban areas and the other half is from rural areas. Twenty-four percent of the sample is from urban governorates, 40 percent from Lower Egypt, and the remaining 35 percent from Upper Egypt. This quite closely resembles the actual distribution of the Egyptian population and is comparable to the distribution from the recently completed Egypt Demographic and Health Survey (1996).

In order to estimate households' annual consumption expenditure, households were asked a series of questions regarding expenditure incurred on food, clothing, transportation, education, housing, health, major events for different recall periods. These expenditure items were used to calculate the total annual expenditures incurred by households. For the purposes of the ensuing, analysis expenditures are used to proxy income. Over 56 percent of the households reported annual expenditures of less than 6000 LE. Slightly over five percent of households were in the highest expenditure category of over 18,000 LE. This shows a very skewed income distribution.

Table 2: Distribution of Households by Region and Estimated Annual Consumption Expenditures (in LE)*

Category	Household	Percent
Location of Residence		
Urban Governorate	2388	24.05
Lower Egypt		13.03
Urban	1293	
Rural	2771	27.90
Upper Egypt		
Urban	1221	12.29
Rural	2258	22.74
All Urban	4902	49.00
All Rural	5029	51.00
Annual Household Expenditures		
<3000	1909	19.22
300–5999	3701	37.27
6000–8999	2123	21.38
9000–11999	938	9.45
12000–14999	484	4.87
15000–17999	245	2.47
18000 +	531	5.35
All Households	9931	100.00

Exchange Rate at time of survey LE 3.39=\$1

3. Household Socio-Economic Characteristics

3.1 Housing Characteristics

Table 3 presents the distribution of households by selected housing characteristics. Source of drinking water, type of sanitation facilities, type of floor materials, and persons per sleeping room, are some aspects of the household environment that relate to the socio-economic level of the household.

Both access to safe drinking water and adequate sanitation facilities are important determinants of health conditions. Nearly 80 percent of households in the survey had access to piped water. The remaining group depended primarily on wells. Virtually all households in urban areas have piped water, while in rural areas only 61 percent of households have access to piped water. By place of residence, piped water is universally available to households in urban governorates. Households in lower Egypt were more likely to have access to piped water than those in upper Egypt. Households in rural Upper Egypt were the least likely to have access to piped water.

With regard to sanitation, only 27 percent of the households in the sample had modern flush toilets, 53 percent had traditional toilets with bucket flush, and 8 percent did not have a toilet in the house. The lack of toilet facilities was especially marked in rural areas with 25 percent of households in rural Upper Egypt reporting that they did not have a toilet as compared with 5 percent of households in rural Lower Egypt.

Roughly one half of the households have cement tile floors, 14 percent have cement floors, and 32 percent have floors of earth or sand. Fifty-six percent of rural households have floors of earth or sand while cement is most common in urban areas.

Table 3 also shows the number of persons per sleeping room as a measure of crowding. It is seen that 52 percent of households have one or two persons per sleeping room, 36 percent have three or four persons per sleeping room, 9 percent have five or six persons per sleeping room, and 4 percent have more than seven persons per sleeping room. Urban households appear to be slightly less crowded than rural households. The mean number of persons per sleeping room is 2.7 in urban areas compared with 3.3 in rural areas. By place of residence, the mean varies from a low of 2.6 in urban governorates and urban Lower Egypt to a high of 3.7 persons in rural Upper Egypt, suggesting that rural households experience greater crowding.

Table 3: Percentage Distribution of Households by Housing and Sanitation Characteristics

Characteristics	Urban	Rural	Total	Urban Gov.	Lower Urban	Lower Rural	Lower Total	Upper Urban	Upper Rural	Upper Total
Drinking Water										
Piped water	94.2	61.3	77.5	98.5	94.0	66.7	75.3	86.0	54.7	65.7
Piped into residence	90.0	49.2	69.3	94.6	91.5	55.3	66.8	79.6	41.6	55.0
Public Tap	4.2	12.1	8.2	3.9	2.5	11.4	8.5	6.4	13.0	10.7
Well water	1.5	25.8	13.8	0.3	1.5	23.0	16.2	3.9	29.2	20.3
Well in residence	1.0	13.6	7.4	0.1	0.7	10.1	7.1	2.9	17.8	12.6
Public Well	0.5	12.2	6.4	0.2	0.8	12.9	9.1	1.0	11.3	7.7
Nile, Canal	0.0	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.3	0.2
Other	4.3	12.7	8.5	1.2	4.5	10.2	8.4	10.1	15.9	13.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sanitation Facility										
Modern flush toilet	46.8	7.2	26.7	58.7	39.7	9.6	19.2	30.9	4.3	13.6
Traditional with flush	3.6	2.7	3.2	2.0	5.0	3.3	3.8	5.2	2.1	3.2
Trad. with bucket flush	44.6	60.9	52.9	37.8	52.0	78.0	69.7	50.0	39.9	43.5
Pit toilet, latrine	2.4	14.3	8.4	0.5	1.2	3.1	2.5	7.4	28.0	20.8
No facility	2.1	14.0	8.1	0.6	1.3	5.4	4.1	5.7	24.5	17.9
Other	0.6	0.8	0.7	0.4	0.7	0.5	0.6	0.9	1.2	1.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Floor Materials										
Earth, sand	7.4	56.5	32.3	1.3	6.9	42.9	31.5	20.1	73.1	54.5
Parquet, polished wood	2.4	0.1	1.2	3.0	1.9	0.1	0.7	1.7	0.0	0.6
Ceramic Tiles	0.8	0.1	0.4	1.3	0.3	0.1	0.2	0.3	0.0	0.1
Cement Tiles	73.2	22.1	47.3	75.8	74.4	28.7	43.2	67.0	13.9	32.5
Cement	8.0	20.1	14.1	6.5	10.4	27.4	22.0	8.1	11.2	10.1
W/W Carpet	5.9	0.5	3.1	8.9	4.6	0.5	1.8	1.4	0.4	0.8
Other	2.3	0.8	1.5	3.2	1.5	0.2	0.6	1.3	1.4	1.4

Characteristics	Urban	Rural	Total	Urban Gov.	Lower Urban	Lower Rural	Lower Total	Upper Urban	Upper Rural	Upper Total
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Persons sleeping per rm										
One-two	61.6	42.1	51.7	65.9	63.4	48.5	53.2	51.1	34.2	40.2
Three-four	30.1	42.3	36.3	27.1	29.9	41.7	38.0	36.1	43.1	40.6
Five-six	6.2	10.8	8.6	5.0	5.8	7.9	7.2	9.2	14.4	12.6
Seven or greater	2.1	4.8	3.4	2.0	0.9	1.9	1.6	3.6	8.3	6.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean	2.68	3.28	2.98	2.57	2.58	2.99	2.86	3.01	3.64	3.41
Households	49.2	5029	9931	2388	1293	2771	4064	1221	2258	3497

3.2 Household Possessions

Table 4 provides information on household ownership of major durable goods. Roughly 46 percent of the households owned black and white televisions and 37 percent owned color televisions. The percentage of households owning television sets is higher than those owning clocks (45 percent). Sixty-nine percent of households reported owning a washing machine, 55 percent owned refrigerators. Only 5 percent owned private cars.

There are significant differences between urban and rural areas in the percentage of households possessing various durable goods. As an example, while 77 percent of households in urban areas have refrigerators only 34 percent in rural areas have refrigerators. The largest urban-rural differentials are observed in the case of ownership of cooking stoves (84 percent versus 38 percent). The variation is more pronounced by residence: 91 percent of households in urban governorates have cooking stoves as compared with only 21 percent in rural Upper Egypt. Generally, households in rural Upper Egypt are less likely to possess durable goods than other areas pointing to the uneven economic development of the country.

Table 4: Percentage Distribution of Households Reporting Possession of Durable Goods

Characteristics	Urban	Rural	Total	Urban Gov.	Lower Urban	Lower Rural	Lower Total	Upper Urban	Upper Rural	Upper Total
Black and White TV	39.3	52.9	46.2	35.2	41.5	56.8	51.9	45.1	48.1	47.1
Color TV	58.0	16.7	37.1	66.5	53.0	21.0	31.2	46.8	11.4	23.8
VCR	13.7	0.8	7.2	18.6	8.7	0.9	3.4	9.4	0.6	3.7
Clock	68.4	22.1	45.0	77.3	65.4	29.3	40.8	54.1	13.3	27.6
Air Conditioner	3.0	0.4	1.7	3.6	1.2	0.3	0.6	3.8	0.5	1.7
Electric Fan	67.2	36.9	51.9	69.6	60.0	35.9	43.6	70.4	38.3	49.5
Cooking Stove	83.9	38.0	60.7	91.4	82.4	52.1	61.7	70.9	20.7	38.3
Water Heater	42.7	6.7	24.5	51.7	36.4	8.5	17.4	31.9	4.4	14.1
Refrigerator	77.0	33.8	55.1	83.9	71.1	37.1	47.9	69.6	29.7	43.7
Washing Machine	81.4	56.5	68.8	83.8	84.6	71.4	75.6	73.4	38.2	50.5
Automatic Washer	13.0	1.3	7.0	17.4	7.2	1.3	3.2	10.4	1.2	4.4
Sewing Machine	23.4	9.6	16.4	26.0	21.5	11.4	14.6	20.5	7.4	12.0
Bicycle	17.1	15.1	16.1	11.7	18.0	17.5	17.7	26.5	12.0	17.1
Car	8.6	1.3	4.9	11.4	5.4	1.5	2.8	6.4	1.0	2.9
Motorcycle	2.4	2.4	2.2	1.5	1.6	3.2	2.7	3.7	1.5	2.2
Bed	97.5	86.5	92.0	98.5	98.5	95.3	96.3	94.5	75.8	82.4

4. Individual Socio-Economic Characteristics

Table 5 shows the main demographic characteristics of the individuals interviewed during the survey. Approximately 20 percent of those interviewed live in urban governorates, 42 percent live in Lower Egypt (12 percent in urban and 30 percent in rural areas) and 38 percent live in Upper Egypt (12 percent urban and 26 percent rural).

Slightly less than 13 percent of the sample consisted of individuals less than five years of age, 31 percent were in the five to fifteen age group, 23 percent were sixteen to twenty nine, 12 percent were thirty to thirty-nine, 9 percent were between the ages of forty and forty-nine, and 12 percent were fifty years of age or older. 49 percent of the sample were males and 51 percent were females.

Table 5: Percent Distribution of Individuals By Various Characteristics

Characteristics	Number	Percent
Urban Governorate	10,114	20.37
Lower Egypt (Total)	21,049	42.25
Lower Urban	5,770	11.58
Lower Rural	15,279	30.67
Upper Egypt (Total)	18,619	37.38
Upper Urban	5,872	11.79
Upper Rural	12,747	25.59
Age		
0–5	6,351	12.75
5–15	15,649	31.42
16–29	11,467	23.02
30–39	57,70	11.58
40–49	45,14	9.06
50–59	2,879	5.78
60 +	3,182	6.39
Education		
No Schooling	16,119	32.36
Don't Know	3,615	7.26
Nursery and Primary	13,921	26.96
Preparatory	5,658	11.36
Secondary	7,242	14.54
Upper Intermediate	834	1.67
University	2,287	4.59
More than University	133	0.28
Gender		
Male	24,600	49.39
Female	25,212	50.61
Perceived Health Status		
Excellent	1,822	3.66
Very Good	10,245	20.57
Good	26,657	53.52
Satisfactory	7,665	15.39
Bad	3,423	6.87

Approximately, 32 percent of the sample reported having no schooling. This includes persons below the age of five. Twenty-seven percent had completed up to the primary level, 11 percent had completed up to the preparatory level, 14 percent had completed some secondary education, and only 6.5 percent had completed higher than secondary education.

4.1 Occupation

Roughly 20 percent of the individuals reported being formally employed. Table 6 shows that of these, slightly over 25 percent were engaged in agriculture, 9 percent were involved in skilled manual labor, 8 percent were in professional or managerial positions, and 26 percent were employed in sales and service.

Table 6: Distribution of Formally Employed Individuals by Occupation

Category	Number	Percent
Sales/Service	942	25.92
Agriculture	2,902	25.19
Skilled Manual	3,004	9.21
Professional Managerial/Technical	1,067	8.13
Household Domestic	16	0.14
Others	3641	31.42
Total	11,590	100.00

4.2 Rural/Urban Distribution of Individuals by Income Quintiles

Table 7 gives the rural and urban distribution of individuals by income quintile. This once again shows that individuals living in rural areas tend to be significantly poorer than their urban counterparts. For example, nearly 75 percent of persons in the lowest income quintile lived in rural areas, whereas only 25 percent lived in urban areas. This pattern holds true across other income quintiles with only 34 percent of persons in the highest quintile residing in rural areas. The skewed distribution of income might well affect the ability of households to access health services, especially when out-of-pocket costs are high.

Table 7: Urban/Rural Distribution of Individuals by Income Quintiles

	Percent Rural	Percent Urban
Quintile 1 (<560 LE)	74.87	25.13
Quintile 2 (560-840)	68.57	31.43
Quintile 3 (840-1113)	59.08	40.92
Quintile 4 (1114-1704)	44.91	55.09
Quintile 5 (>1704)	33.88	66.12

5. Individual Illness Events

5.1 Reported Incidence of Illness in the Past Two Weeks

Table 8 gives the reported incidence of illness in the past two weeks. Forty-four percent of the sampled individuals said that they were ill during the past two weeks. This high rate of reported illness reflects the extensive use of probing questions to capture all perceived illness and includes both chronic and acute problems. It is likely that the reported illness rate using this method is much higher than would be found for the response to a single open question, such as, were you ill during the last two weeks? In both lower and upper Egypt individuals in urban areas were more likely to report being ill than those living in rural areas. Forty percent of males and 47 percent of females reported being ill in the past two weeks. Illness reports show the paradoxical, but often reported fact, that wealthier people report more illness. They also have worse self-perceived health status.

Table 8: Percentage of Individuals Reporting an Episode of Illness

Category	Number	Percentage
Total	21,734	44.00
Urban Governorates	5,254	31.70
Lower Egypt		
Urban	2,766	47.90
Rural	6,549	42.80
Upper Egypt		
Urban	2,359	40.10
Rural	4,806	37.60
Males	8,881	40.10
Females	11,853	46.90
Income Quintiles		
Quintile 1 (Low)	3,901	39.10
Quintile 2	4,075	40.90
Quintile 3	4,245	42.60
Quintile 4	4,612	46.20
Quintile 5 (High)	4,901	49.00

5.2 Self Assessment of Health Status

Table 9 gives individuals' self-assessment of health status. At the national level a little over 24 percent of individuals felt their health was either very good or excellent. Nearly 69 percent felt that their health was either satisfactory or good and the remaining 7 percent felt their health was poor. Persons living in urban areas were slightly more likely to consider their health status to be poor as compared with persons living in rural areas. While 28 percent of individuals in rural lower Egypt felt their health was either very good or excellent, only 21 percent of individuals in urban Upper Egypt felt they enjoyed either very good or excellent health. Similarly, of those who considered their health status to be poor the highest percentage was from urban Upper Egypt.

Table 9: Perception of Health Status (in Percentages)

	Excellent	Very Good	Good	Satisfactory	Poor
National	3.66	20.57	53.52	15.39	6.87
Urban	3.22	19.04	53.93	16.56	7.24
Rural	4.00	21.75	53.19	14.48	6.59
Male	3.92	21.90	53.48	14.27	6.43
Female	3.40	19.27	53.55	16.48	7.31
Urban Governorates	3.08	19.72	53.56	16.58	7.07
Upper Urban	2.84	17.69	53.83	16.83	8.80
Upper Rural	3.29	20.50	54.01	14.88	7.32
Lower Urban	3.85	19.21	54.68	16.26	5.99
Lower Rural	4.84	23.25	52.21	14.00	5.70
Income 1 (Low)	3.30	19.07	56.11	14.67	6.85
Income 2	3.29	21.21	54.53	15.00	5.96
Income 3	3.35	20.88	53.92	15.49	6.36
Income 4	3.74	20.85	52.61	15.81	7.00
Income 5 (High)	4.61	20.83	50.41	15.97	8.19
Age : 0–15	6.01	22.22	56.88	12.12	4.77
16–29	5.05	26.35	56.12	9.38	3.10
30–39	3.33	19.90	53.97	16.45	6.36
40–49	2.30	14.64	50.29	22.35	10.41
50–59	1.46	10.84	43.28	28.69	15.73
60–69	0.63	8.00	37.82	33.63	19.91
70–79	0.92	4.35	27.15	39.63	27.95
80+	0.77	5.00	25.77	39.62	28.85

Men were more likely to believe that they enjoyed either very good or excellent health than women. Similarly, while over 7 percent of women considered their health status to be poor, the comparable percentage for men was a little over 6 percent. While only 21 percent of individuals in the lowest income quintile reported their health status to be either very good or excellent, the comparable number for individuals in the highest income quintile was over 25 percent. Surprisingly, a greater proportion of individuals in the highest income quintile reported their health status to be poor as compared with individuals in the lowest income quintile.

Age was negatively related to the perception of being in good health, i.e., individuals in lower age groups were more likely to believe that their health was either very good or excellent than were individuals in older age groups. While nearly 29 percent of individuals age eighty or older reported being in poor health only 3 percent of individuals in the age group sixteen to twenty-nine reported their health status as poor.

5.3 Number of Days Lost Due to Ill Health

Table 10 shows the number of days lost due to ill health in the past six months. While 74 percent of individuals reported that they had lost at least one month due to ill health in the last six months, 75 percent of individuals in rural areas reported that they had not taken a single day off due to ill health. The comparable number for urban areas was 73 percent. Women were more likely have taken time off due to ill health than men. In the urban governorates over 6 percent of individuals reported having taken at least one month off during the last six months due to ill health. This number for urban Upper Egypt was close to 7 percent. On the other hand in rural Lower Egypt less than 3 percent of those surveyed reported having taken over thirty days off due to ill health.

Table 10: Number of Days Lost Due to Ill Health in Last Six Months (In Percentages)

	None	1–7	8–15	16–30	31+
National	73.95	13.63	5.27	1.42	5.75
Urban	72.88	14.13	5.46	1.55	5.98
Rural	74.79	13.25	5.12	1.32	5.53
Male	75.23	12.95	4.95	3.46	3.41
Female	72.24	14.3	5.58	4.26	3.62
Urban Governorate	72.90	13.6	5.64	1.59	6.27
Upper Urban	69.03	16.41	6.34	1.40	6.81
Upper Rural	72.21	14.78	5.39	1.20	6.42
Lower Urban	76.63	12.79	4.27	1.63	4.67
Lower Rural	77.75	11.41	4.79	3.37	2.67
Income 1 (Low)	77.47	12.38	4.54	1.13	4.48
Income 2	75.97	12.83	4.99	1.23	4.97
Income 3	73.84	14.25	5.17	1.35	5.39
Income 4	72.48	14.54	5.38	1.70	5.91
Income 5 (High)	70.01	14.17	6.25	1.68	7.89
Age: 0–15	79.1	14.22	3.73	0.92	2.02
16–29	74.44	12.65	4.29	1.03	3.58
30–39	71.53	13.55	6.36	1.66	6.90
40–49	66.39	14.47	7.42	2.08	9.64
50–59	58.53	13.51	10.11	3.09	14.76
60–69	53.54	12.98	9.86	3.42	20.20
70–79	47.42	11.23	9.16	3.67	28.52
80+	46.54	8.85	13.46	1.92	29.23

Individuals with higher incomes were more likely to take time off due to ill health than those with lower incomes. For example, while 70 percent of individuals in the highest income quintile reported that they had taken no days off due to ill health in the past six months the comparable figure for persons in the lowest income quintile was over seventy-seven percent. This information coupled with data from perception of health status shows that individuals in the lowest income quintile were both less likely to perceive their health status as poor and take time off due to ill health.

5.4 Chronic Health Conditions

Table 11 shows the number of individuals who reported having had a chronic health condition that lasted for at least three months. A high percentage of individuals—over 16 percent—reported having had a chronic health condition for at least three months. The prevalence of a chronic health condition was 43 percent higher for individuals in urban areas as compared with individuals living in rural areas. Similarly, women were more likely to report chronic health conditions than men.

Table 11: Chronic Health Problem for At Least Three Months (In Percentages)

	No	Yes
National	83.74	16.26
Urban	80.38	19.62
Rural	86.35	13.65
Male	85.04	14.96
Female	82.47	17.53
Urban Governorates	76.12	23.88
Upper Urban	81.87	18.13
Upper Rural	85.80	14.20
Lower Urban	86.27	13.73
Lower Rural	87.01	12.99
Income 1 (Low)	86.35	13.65
Income 2	86.41	13.59
Income 3	85.04	14.96
Income 4	82.20	17.80
Income 5 (High)	78.70	21.30
Age: 0–15	91.67	8.36
16–29	88.40	11.60
30–39	80.26	19.74
40–49	71.67	28.33
50–59	62.45	37.55
60–69	56.42	43.58
70–79	51.32	48.68
80+	53.46	56.54

The reported prevalence of chronic conditions was nearly twice as high in urban governorates as in rural Lower Egypt. At the same time individuals with higher incomes were more likely to report having a chronic condition than individuals with lower incomes. With age, as expected, a greater proportion of older individuals reported suffering from a chronic health problem than younger individuals. An important finding was that at least 28 percent of individuals age forty or older reported having a chronic health condition.

6. Risk Factors and Activities of Daily Living

6.1 Prevalence of Smoking

Table 12 gives the reported prevalence of smoking among those surveyed. Table 13 compares the prevalence of tobacco smoking in Egypt with other countries. Individuals age sixteen and older were asked whether they currently smoked. The linkages between tobacco smoking and ill health has been studied in some detail with most studies pointing out that tobacco use is a major cause of disability and premature death (RCP 1983, WHO 1986, USDHHS 1989). Not only is tobacco smoking injurious to health but it has also been shown to affect the financial status of the family. Typically, families spend between one and five percent of their monthly income on tobacco (Stanley 1993) and as tobacco smoking is more prevalent among lower socioeconomic groups the burden on the household is even greater. A study done in Bangladesh (Cohen 1981) showed that smoking could lead to a dietary deficiency of 8,000 calories per month in a poor household, seriously affecting the survival of children. Egypt has one of the highest prevalence rates for smoking among males in the world. India, China, and the former Soviet Union are countries with prevalence rates higher than Egypt. Egypt-specific studies also draw attention to the adverse health impact of smoking.

Table 12: Percentage of Individuals Age Sixteen and Over Who Currently Smoke

	No	Yes
Males		
National	51.37	48.63
Urban	52.31	47.69
Rural	50.52	49.48
Age		
16–29	67.34	32.66
30–39	37.01	62.99
40–49	36.99	63.01
50–59	39.62	60.38
60–69	44.84	55.16
70–79	53.79	46.21
80+	69.44	30.56
Females		
National	98.83	1.17
Urban	99.00	1.00
Rural	98.67	1.33
Age		
16–29	99.34	0.66
30–39	99.03	0.97
40–49	98.71	1.29
50–59	98.21	1.79
60–69	96.86	3.14
70–79	96.12	3.88
80+	97.15	2.85

The household survey only reinforces statistics on smoking that have been reported in other surveys. Over 60 percent of males between the ages of thirty and fifty-nine said they smoked. The government has recently initiated legislation that prohibits smoking in offices and public places. Legislative initiatives coupled with strict enforcement and consumer education might reduce the incidence of smoking. Higher sin taxes targeted at cigarettes is another option the government might want to consider to pay for the expenses of treating smoking-related illnesses.

Table 13: Smoking Prevalence Rates Among Adult Males in Other Countries

Country	Percent
Egypt	49
India	52
U.S.S.R. (former)	65
United States	32
China	61

Source: Control of Tobacco Production and Use: Stanley EHHEUS, 1995

6.2 Difficulty in Performing Activities of Daily Living (ADLs)

The demographic transition in Egypt shows that the elderly, i.e., those age sixty and over, is the single fastest growing segment of the population. Their number has grown from one million in 1950 to about four million today and is projected to reach ten million by the year 2025. The proportion of the population over the age of sixty will rise from 5 percent in 1950 to 11 percent by 2025 (UN 1993). The growth in the population of the elderly, coupled with changes in the labor market (more women joining the work force) will mean a reduction in the informal care giving available to the elderly. This in turn might require government to strengthen and expand social services for this group.

Few studies have been conducted on the health and disability status of the elderly in Egypt. The first study was conducted in 1971 by the Society of Social Work in Alexandria and the Egyptian Society for Social Studies in Cairo on a group of 369 elderly individuals living in Alexandria. The second study looked at 500 elderly persons living in Cairo. Both studies focused on the socio-economic status of the elderly and their assessment of their health status. A more comprehensive study was conducted in the late 1980s as part of the Social Support System study sponsored by the United Nations University (Adel Azer and Elham Afifi, 1990). Nearly 1000 elderly persons living in two shiakas (sub-districts) of Giza Governorate were surveyed. This survey attempted to assess the ability of the elderly to perform a number of activities. However, all the three studies were urban based and had small sample sizes.

The Egypt Household Health Care Use and Expenditure Survey (EHHUES) represents the first attempt to estimate at the national level the ability of persons age sixteen and older to perform activities of daily living (ADLs). The standard list of activities consisting of bathing, dressing, toileting, transferring (motility and mobility), and eating was used in the survey. United States-based studies tend to suggest that persons seem to lose their ability to perform ADLs in the reverse order in which they learned them as a child. In other words, bathing is the first ADL that people lose and the ability to feed themselves is the last ADL lost.

Table 14 shows that difficulty in performing ADLs increases exponentially with age. For all ages 1.79 percent reported difficulty with bathing, 1.06 percent reported difficulty with dressing, 1.25 percent had difficulty toileting, 1.50 percent had difficulty transferring, 1.37 percent had difficulty walking, and only .49 percent had difficulty feeding themselves. While 5.66 percent of those in the age group sixty to sixty-nine reported difficulty with bathing, the comparable numbers were 12.49 percent for those in the age group seventy to seventy-nine, and 30 percent for those age eighty plus.

Table 14: Difficulty in Performing Specific ADLs (In Percentages)

	Bathing	Dressing	Toileting	Transferring	Feeding	Walking
National	1.79	1.06	1.25	1.50	0.49	1.37
Age						
16–29	0.26	0.12	0.18	0.22	0.10	0.22
30–39	0.50	0.19	0.23	0.47	0.16	0.29
40–49	1.24	0.75	0.75	1.28	0.16	0.93
50–59	2.78	1.49	2.05	2.64	0.49	2.05
60–69	5.66	3.51	3.71	4.64	1.61	4.05
70–79	12.49	7.67	9.97	10.19	4.01	10.31
80+	30.00	21.15	21.92	17.69	10.00	25.00

Table 15 shows that at the national level slightly less than 2.5 percent of the population had difficulty with one or more ADLs. Once again analyzing this by age category shows that 4 percent of those in the age group fifty to fifty-nine had difficulty with at least one ADL. The comparable figures for other age groups is 7.42 percent for those in the age group sixty to sixty-nine, 16.15 percent for those in the age group seventy to seventy-nine, and 34.62 percent for those aged eighty and over. These figures show a very high level of ADL dependency at the older age groups. With strong family support still available (provided primarily by wives, daughters and daughters-in-law) the question of how to meet the ADL needs of the elderly is as yet not a major issue. However, with increasing life expectancies and the gradual disintegration of the extended family, an increasing number of elderly will have to depend upon themselves or someone from outside to assist them in their daily activities.

Table 15: Percentage of Population with ADL Deficiencies

	0	1+	2+	3+	4+	5+	6
National	97.52	2.48	1.74	1.29	0.97	0.69	0.29
Age							
16–29	99.56	0.44	0.26	0.16	0.11	0.10	0.03
30–39	99.08	0.92	0.38	0.24	0.17	0.09	0.03
40–49	98.05	1.95	1.13	0.82	0.62	0.44	0.16
50–59	96.01	3.99	2.81	2.12	1.46	0.83	0.28
60–69	92.58	7.42	5.56	3.95	3.03	2.24	0.98
70–79	83.85	16.15	12.49	9.85	7.67	5.84	2.63
80+	65.38	34.62	30.00	23.46	18.08	13.08	6.54

Tables 16 and 17 present ADL limitations by gender. Except for the age groups sixteen to twenty-nine and sixty to sixty-nine, females reported higher disability rates than males.

The rate of reported ADL disability is extremely high and needs closer examination. One possible reason for males reporting lower levels of disability in the age groups other than sixteen to twenty-nine is that they either consider themselves to be healthier or that females are more likely to take cognizance of such difficulties.

Table 16: Difficulty in Performing Activities of Daily Living (Males)

	0	1+	2+	3+	4+	5+	6
Age							
16–29	99.47	0.53	0.33	0.22	0.15	0.11	0.07
30–39	99.14	0.86	0.35	0.23	0.12	0.08	0.00
40–49	98.45	1.55	1.00	0.82	0.64	0.50	0.14
50–59	96.93	3.07	2.27	1.97	1.46	0.80	0.29
60–69	94.39	5.61	4.30	3.30	2.60	2.30	1.10
70–79	88.75	11.25	8.56	6.85	5.38	3.42	1.71
80+	71.30	28.70	25.93	18.52	13.89	9.26	3.70

As observed earlier, the number of persons age sixty and older is projected to increase from 4 million today to 10 million by the year 2025. Given the aging of the population and the high level of functional disability, the government might seriously consider putting in place community-based services to meet the needs of the elderly and to foster the growth of private insurance or other social financing mechanisms that will enable the elderly to plan and pay for their long-term care needs.

Table 17: Difficulty in Performing Activities of Daily Living (Females)

	0	1+	2+	3+	4+	5+	6
Age							
16–29	99.63	0.37	0.20	0.10	0.08	0.08	0.00
30–39	99.03	0.97	0.41	0.25	0.22	0.09	0.06
0–49	97.68	2.32	1.25	0.82	0.60	0.39	0.17
0–59	95.17	4.83	3.31	2.25	1.46	0.86	0.26
0–69	90.86	9.14	6.38	4.57	3.43	2.19	0.86

7. Health Insurance Coverage in Egypt

The results from the Egypt Household Health Care Use and Expenditure Survey (EHHUES) indicate that approximately 31 percent of Egypt's population is covered by health insurance (Table 18). A large percentage of the insurance coverage is due to the recent introduction of the School Health Insurance Program (SHIP) in 1993. Only about 15 percent of individuals above 18 years of age are covered by health insurance. This is largely related to employment in the government and formal sectors. In contrast, over 58 percent of school age individuals (6–18) are covered by the SHIP. A gap in SHIP coverage of the school age population is largely a result of a low school attendance rate in Egypt. The EHHUES reported that only 74 percent of the population between 6 and 18 years old are currently attending school.

7.1 Insurance Coverage by Geographic Areas

Large differences exist in health insurance coverage by in urban and rural areas. While in urban areas about 20 percent of individuals above 18 are insured, coverage in rural areas is only 10 percent, reflecting the differences in the levels of formal sector employment. Similarly, while close to 69 percent of urban school age individuals are covered by SHIP, only 51 percent are covered in the rural areas. This is probably because urban children are more likely to go to school than their rural counterparts, and because providers for the SHIP are more available in the urban areas (Table 18).

Table 18: Health Insurance Coverage

	Percentage of the entire sample covered by insurance	Percentage of individuals over 18 years of age covered by other than School Health Insurance	Percentage of the 6–18 years of age sample covered by School Health Insurance
National	31.13%	14.68%	58.15%
Urban	38.70%	20.01%	68.67%
Rural	25.24%	9.76%	50.67%
Region			
Urban Governorates	41.67%	22.44%	68.78%
Urban Upper Egypt	36.46%	17.62%	70.26%
Rural Upper Egypt	29.57%	11.50%	59.22%
Urban Lower Egypt	35.78%	18.30%	67.01%
Rural Lower Egypt	20.05%	7.47%	40.38%

7.2 Insurance Coverage by Socio–Demographic Factors

7.2.1 Gender

Table 19 shows that males are much more likely to have health insurance than females. For the above 18 population, this is probably a result of men being more likely to be employed in the government and formal sectors, which are the primary sources of health insurance. It also reflects the fact that most formal sector health insurance does not cover dependents. For the population 6–18 years of age, the discrepancy in SHIP coverage is probably due to differences in school attendance rates between males and females. The data show that 39 percent of males and 45 percent of females between 6 and 18 years of age are currently not attending school.

Table 19: Insurance Coverage by Socio–Demographic Factors

	Percentage of the entire sample covered by insurance	Percentage of individuals over 18 years of age covered by other than School Health Insurance ¹	Percent of the age 6–18 sample covered by School Health Insurance
Gender			
Male	36.46%	21.97%	61.11%
Female	25.93%	8.19%	55.04%
Income Quintile			
Quintile Bottom	20.78%	6.88%	43.56%
Quintile 2	27.89%	10.44%	55.19%
Quintile 3	32.78%	12.95%	63.44%
Quintile 4	35.70%	17.70%	65.41%
Quintile Top	38.50%	21.73%	66.59%

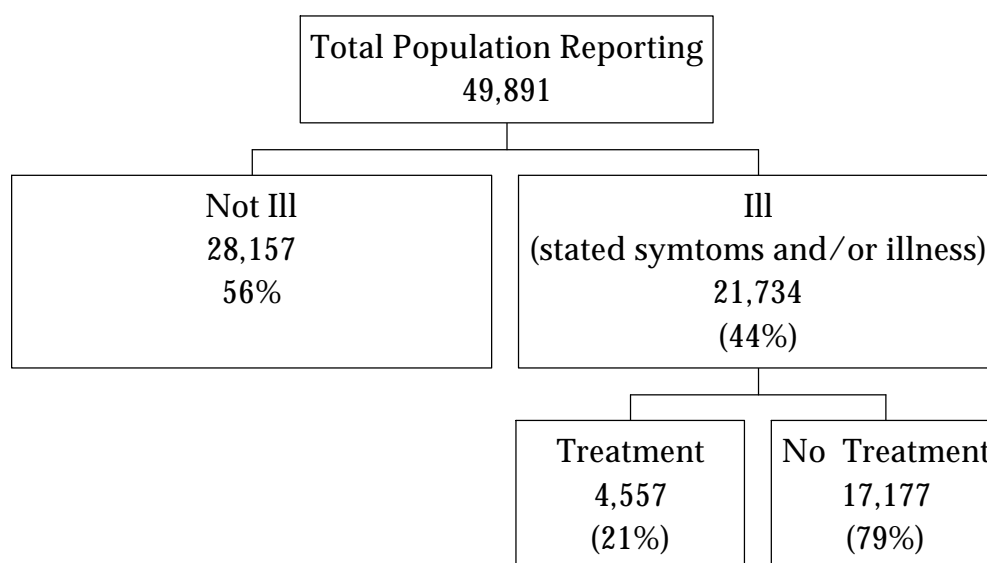
7.2.2 Income

Health insurance is highly correlated with income level. Non–school age individuals in the highest income quintile are 3.5 times as likely to be covered by health insurance than those in the lowest quintile (22 percent vs. 7 percent). This discrepancy is much smaller for school age individuals. While 66 percent of those eligible in the highest income quintile are covered by the program, about 44 percent of those in the lowest income quintile are also covered. At least in terms of health insurance coverage, the SHIP program has therefore promoted a large degree of equity in Egypt (Table 19).

8. Utilization of Health Care Services in Egypt

Forty-four percent of individuals sampled for this survey reported being ill within the previous two weeks. It is likely that this high rate of illness was the result of the questionnaire and interview methods used. Much of this reported illness was comprised of various symptoms which did not result in an active attempt to receive treatment. The survey results allow analysis which “step down” these high rates of reported symptoms and illnesses to lower rates of actual attempts to be treated by a clinician. Figure 1 graphically presents this flow from reporting illness to seeking treatment as a decision tree. Of those who reported being ill in the previous two weeks, 21 percent received treatment. The remaining 79 percent did not seek treatment for various reasons that are discussed later in this section.

Figure 1: Population Reporting Illness and Treatment



The survey indicates that close to 10 percent of the individuals questioned had visited an outpatient clinic within the previous two weeks, and .03 percent had been admitted to a hospital within the past year. The survey was conducted in two rounds, one in the summer and one in the winter. The national use rates were computed by combining the results of the two rounds. Nationally, the annual utilization rate per capita was 3.5 visits for outpatient services, and 0.027 admissions for hospital services (Table 20). As evident from Table 20, significant differences exist in utilization by urban and rural areas, region, gender and income.

Table 20: Annual Utilization Rate Per Capita

	Outpatient Visits	Hospital Admissions
Total Sample	3.51	0.027
Urban	4.48	0.039
Rural	2.75	0.019
Regions		
Urban Governorates	5.17	0.048
Urban Lower Egypt	4.38	0.026
Rural Lower Egypt	2.90	0.020
Urban Upper Egypt	3.38	0.034
Rural Upper Egypt	2.57	0.017
Gender		
Male	3.25	0.027
Female	3.75	0.027
Income Quintiles		
Quintile 1: (<560 LE)	2.32	0.018
Quintile 2: (560–840)	2.91	0.023
Quintile 3: (841–1113)	3.40	0.024
Quintile 4: (1114–1704)	3.79	0.036
Quintile 5: (>1704–LE)	5.11	0.035
Education*		
Nursery	3.47	0.000
Primary	3.93	0.040
Preparatory	3.77	0.054
Secondary	4.20	0.040
Upper Intermediate	4.07	0.046
University	4.17	0.017
Never Been to School	3.64	0.023

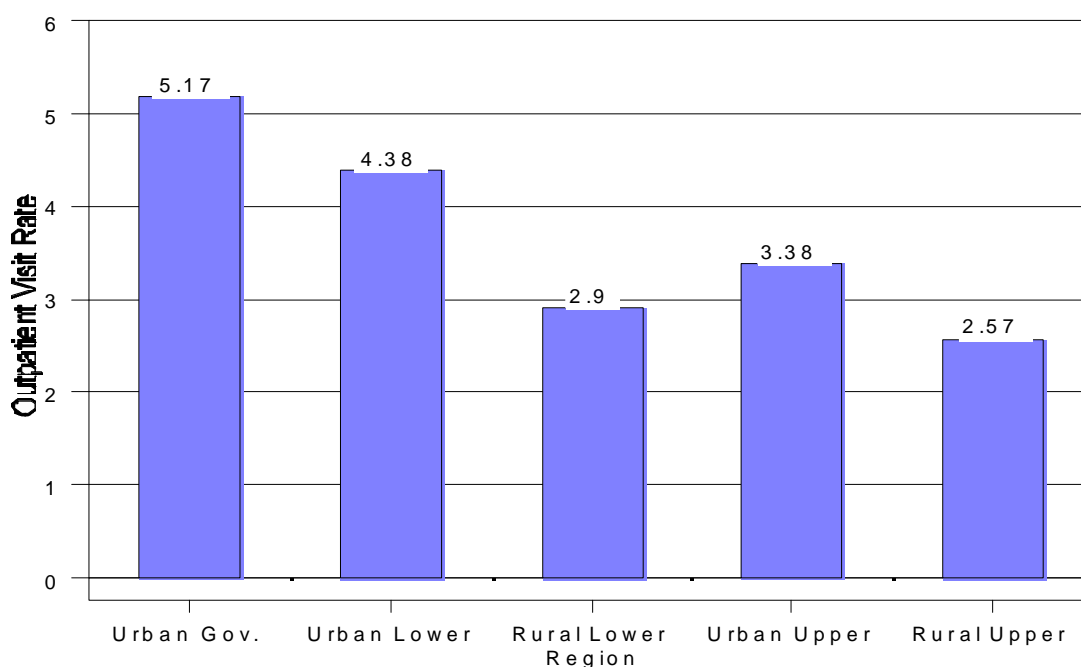
*Only individuals not currently in school and above 4 years old are included in the Education analysis.

8.1 Utilization of Health Services by Geographic Regions

Individuals in urban areas had 4.48 outpatient visits per year compared to 2.75 visits for individuals in rural areas. In other words, individuals in urban areas used 1.6 times the number of outpatient visits as individuals in rural areas. Similarly, the hospitalization rate (number of admissions divided by population) was twice as high in urban as in rural areas.

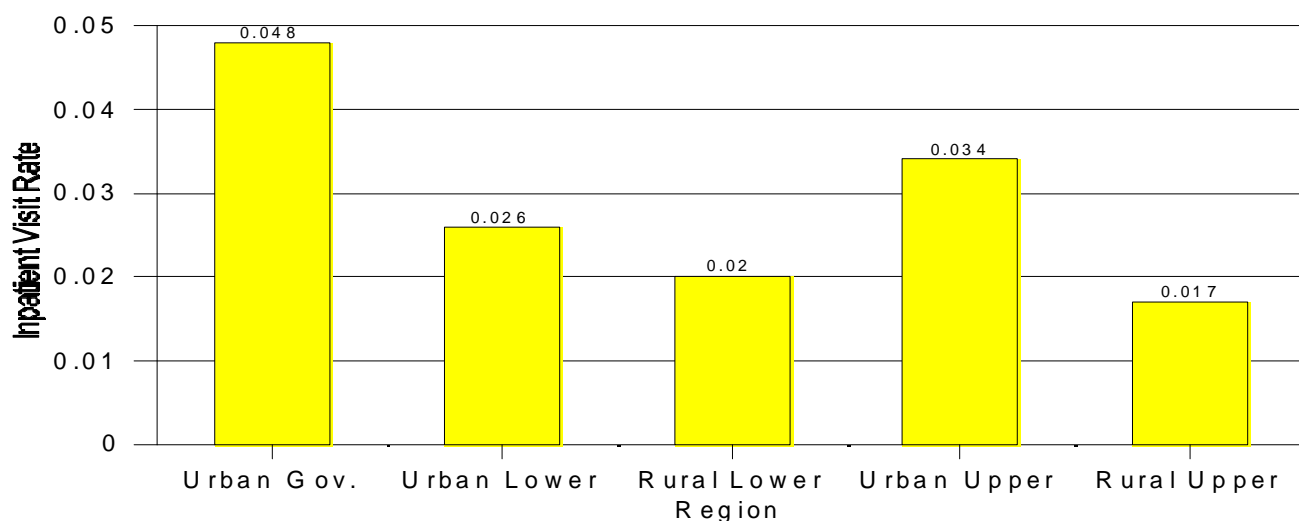
Figure 2 shows that individuals in the urban governorates had the highest number of outpatient visits per year (5.17), followed by individuals in Lower Egypt (3.31), with individuals in Upper Egypt having the lowest number of outpatient visits (2.83) per year. These differences are further accentuated when we look at utilization of health care services by urban and rural areas in Upper and Lower Egypt. For example, individuals in Urban Lower Egypt reported 4.38 outpatient visits per year, as compared to 2.90 visits for individuals in Rural Lower Egypt.

Figure 2: Annual Per Capita Outpatient Visit Rate by Region



For hospital admission services, individuals in urban governorates reported the highest rate of utilization (Figure 3), with twice as many episodes of hospitalization in the past year as those living in either the Upper or Lower governorates. However, in contrast to outpatient services, hospitalization rates were higher in Upper Egypt than in Lower Egypt. The differences in utilization rates for both outpatient and hospital admission services by region might reflect both access to care as well as the ability to pay for services.

Figure 3: Annual Per Capita Hospital Admission Rate by Region

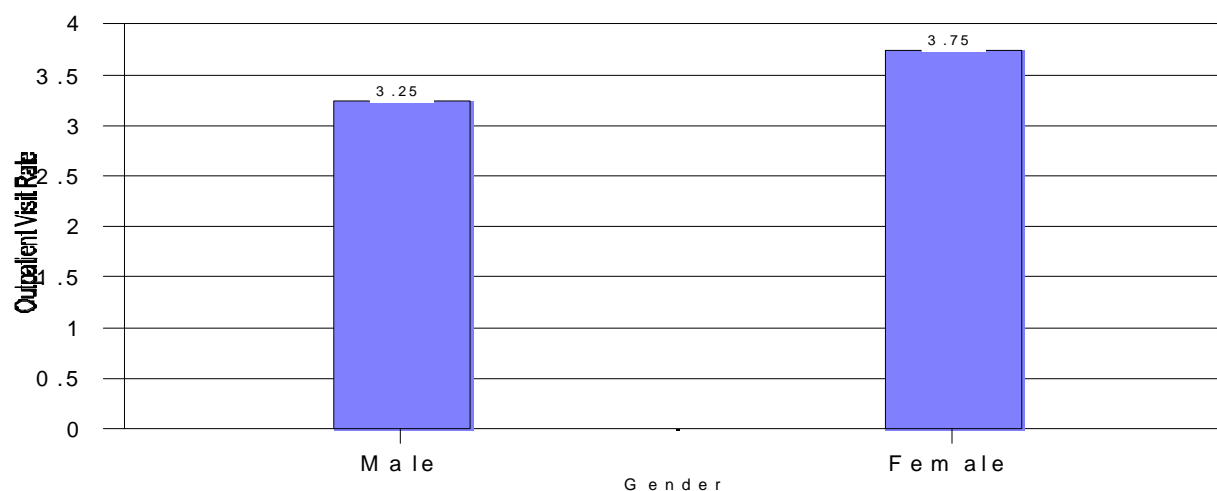


8.2 Utilization of Health Care Services According to Different Social, Economic, and Demographic Characteristics of Individuals

8.2.1 Gender

Utilization of health services did not differ significantly between men and women at the time of the survey. Figure 4 shows that men had 3.25 outpatient visits per capita per year as compared to women, who had 3.75 outpatient visits. For inpatient care, men and women both had about 0.027 episodes of hospitalization per year.

Figure 4: Annual Per Capita Outpatient Visit Rate by Gender



8.2.2 Age

Figure 5 shows that individuals in the 50–59 year age group had the most outpatient visits, averaging 4.99 visits per year. As expected, young children up to the age of four were also high users of outpatient services, averaging 4.45 visits per year. Individuals in the 5–15 year age group had the least number of outpatient visits.

Figure 5: Annual Per Capita Outpatient Visit Rate by Age Group

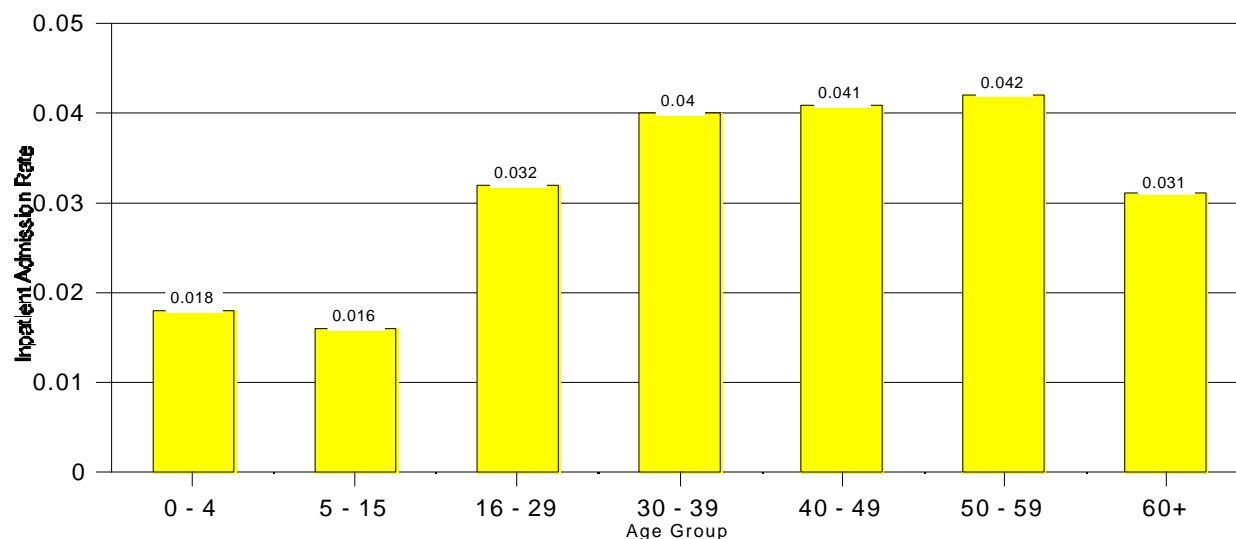
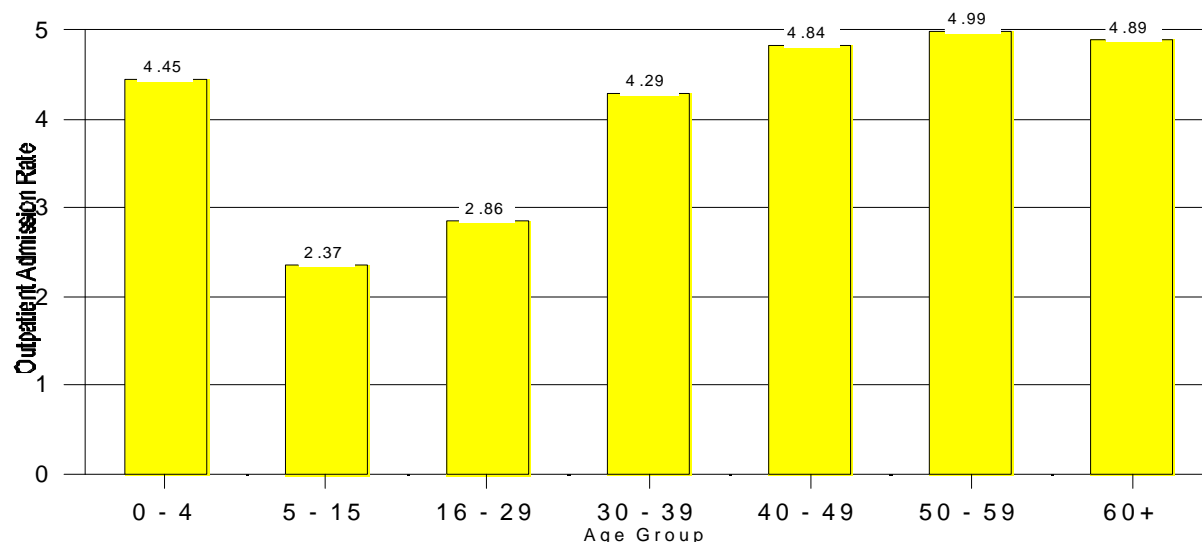


Figure 6 shows that individuals in the 50–59 year age group had the highest number of hospital admissions per year, averaging 0.042 visits per capita per year, while individuals in the 5–15 age group had the lowest hospitalization rate. In general, age is positively related with health care utilization, with older individuals using more health services than younger individuals. Results from this survey do not support this generalization. In fact, those individuals above 60 years of age had fewer hospital admissions than the working-age group. Those above 60 years of age had comparable outpatient visit rates to individuals in their 40s and 50s. However, when we look at health care expenditure (Figure 21), individuals 60 years and over had the greatest amount of expenses among all age groups, reflecting the high intensity of resources incurred by users in this group.

Figure 6: Annual Per Capita Hospital Admission Rate by Age Group



8.2.3 Income

Figure 7 shows that, as expected, outpatient visit rates are positively correlated with income level. Individuals in the highest income quintile (annual per capita income higher than 1700 LE) had the highest number of visits, 5.11 visits, which was 1.35 times as much as individuals in the fourth income quintile, the next highest users by income group. For hospital admission services, while individuals in the highest income quintile still had the highest utilization rate, it was almost the same as those in the fourth income quintile (Figure 8). For both outpatient and hospital admission services, the richest used twice as much as the poorest. This probably accounts for the differences in the utilization of health services in the urban and rural areas. Low use rates by the poor may point to inequitable access to care.

Note: The first income quintile consists of the lowest 20 percent of the sample ranked by annual per capita income. The second, third, fourth, and fifth quintiles represent 20 percent, respectively.

Figure 7: Annual Per Capita Outpatient Visit Rate by Income

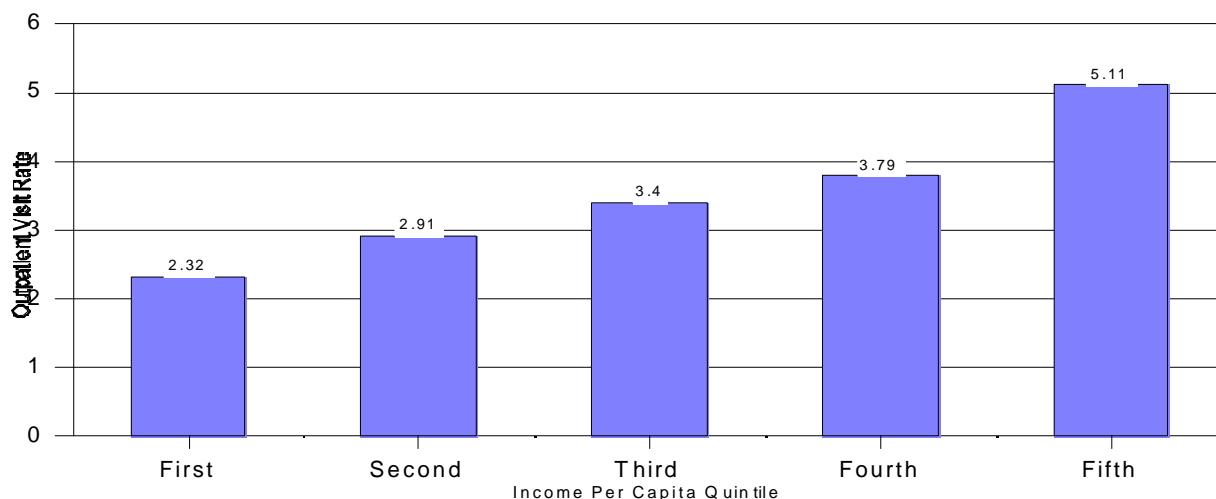
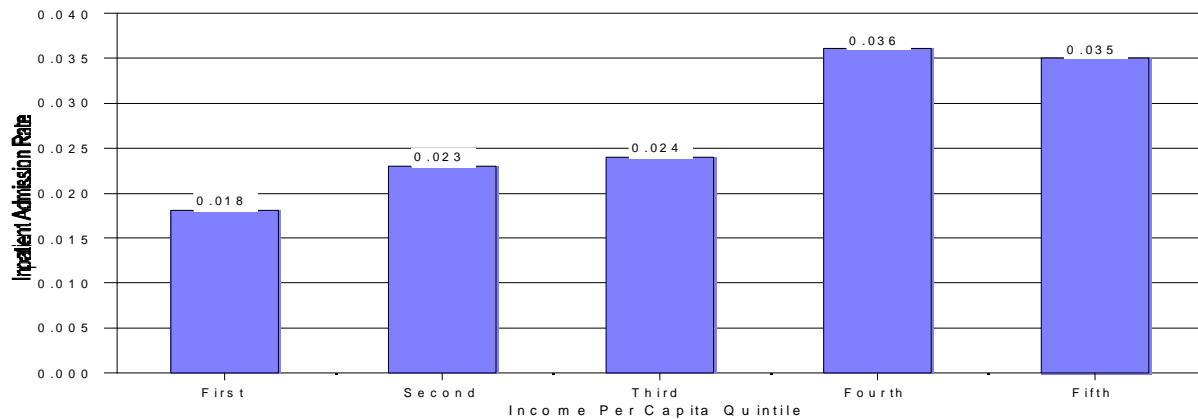


Figure 8: Annual Per Capita Hospital Admission Rate by Income



8.2.4 Education

Outpatient visit rates rise consistently with educational level (Figure 9), reflecting as well the correlation between income and education. A striking exception is for those with less than the primary level of education. The reason for this anomalous tendency is unclear and is being assessed further. On the other hand, individuals with preparatory as the highest level of education completed had the highest rate of hospitalization. Individuals with university-level education had the lowest rates for hospital admissions (Figure 10).

Figure 9: Annual Per Capita Outpatient Visit Rate by Education

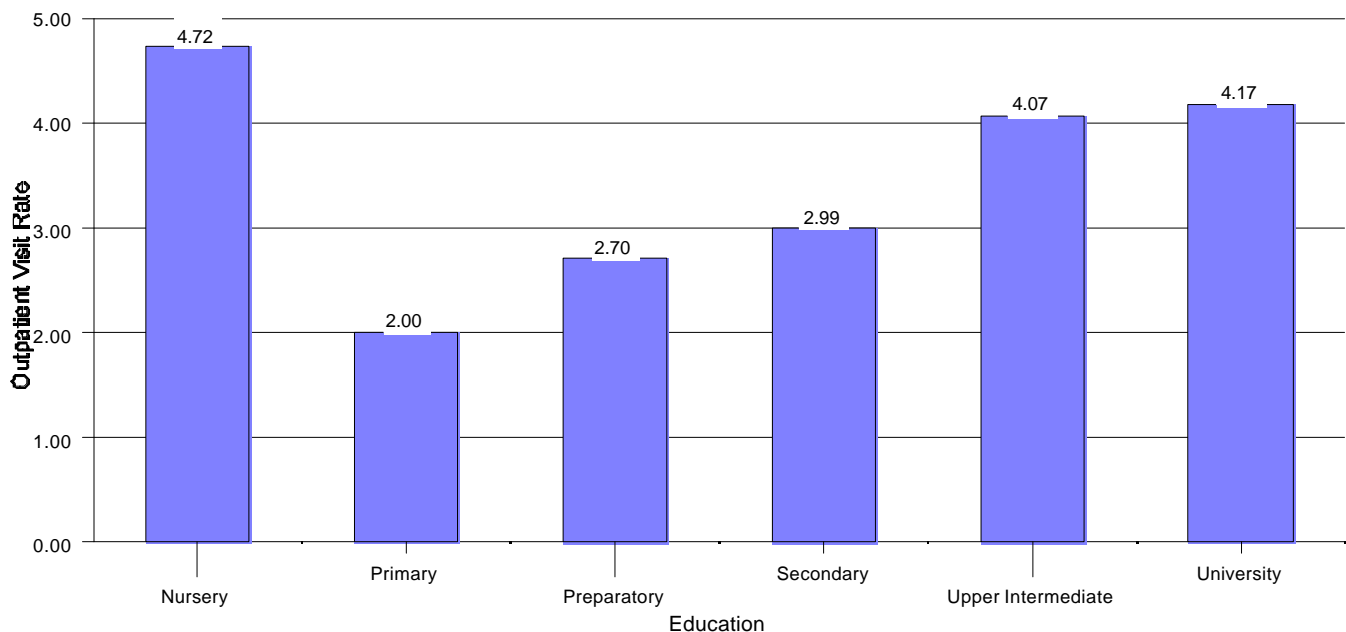
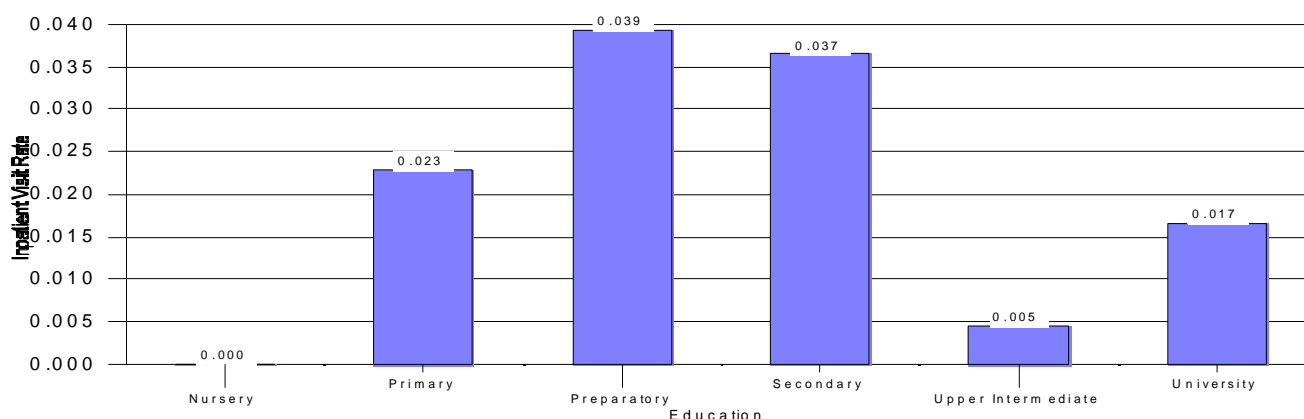


Figure 10: Annual Per Capita Hospital Admission Rate by Education



As insurance reduces the out-of-pocket expenditures for health care, one would expect utilization to increase with insurance. Table 21 shows the differences in utilization rates by insurance status. For groups both above and below 18 years of age, having insurance significantly increases utilization rates for both outpatient and hospital admission services.

Table 21: Utilization Rate Per Capita by Insurance

	Outpatient Visits	Hospital Admissions
Above 18 years old	4.19	0.038
Insurance	5.58	0.061
No insurance	3.94	0.033
6–18 years old	2.27	0.017
SHIP	2.61	0.019
No SHIP	1.68	0.014

8.3 Utilization by Occupation

Health service utilization increases as income rises. Table 22 shows the individual utilization rate and expenditure differences cross occupation categories. People in the professional/managerial category had the highest utilization rates and health expenditures, while domestic and household workers had the least utilization and significantly lower expenditure rates than individuals in other occupations.

Table 22: Utilization by Occupation (Expenditure in LE)

	Outpatient Visits	Hospital Admission Visits	Outpatient Expenditures	Hospital Admission Expenditures	Drug Expenditures	Total Expenditures
Agricultural	2.37	0.013	44.61	4.33	27.88	76.82
Professional Managerial Technical Clerical	4.41	0.041	104.80	12.83	81.78	199.41
Sales Services	3.04	0.024	42.75	3.11	56.24	102.1
Skilled Manual	3.58	0.039	59.66	3.39	33.48	96.53
Household Domestic	1.63	0.063	0.0	0.0	0.375	0.375
Others	4.36	0.042	74.82	9.97	33.95	118.74

8.4 No Utilization

Each individual in the survey was asked if he or she needed outpatient care during the past two weeks or inpatient care during the past year, but had not received the treatment. If so, the respondent was asked for the reasons for non-treatment.

Table 23 presents the reasons why an individual did not seek treatment or did not enter a hospital. Approximately seventy-nine percent of the individuals in the sample who reported a health problem in the previous two weeks did not seek treatment. About five percent of individuals were in need of hospitalization in the past year but were not admitted. It is clear from Table 23 that cost was one of the major reasons individuals did not seek treatment or enter a hospital, despite the existence of a largely free public health care system. Thirty percent of individuals did not seek outpatient care and 54 percent were not hospitalized due to cost. Other than cost, reasons for not seeking outpatient treatment or hospitalization differed. For outpatient visits, approximately one third of the individuals sampled said “the case was not serious” as the reason for not seeking treatment, while for hospitalization, “long waiting time or poor service” and “no time” were often cited as the second main reason for not getting care.

Table 23: Reasons For Not Seeking Care

Reasons	Outpatient	Hospital Admission
Not Serious	28.2%	1.5%
Cost Too High	29.7%	53.8%
Long Waiting Time or Poor Service	NA	10.9%
Distance Too Far	0.9%	1.3%
Afraid to Find Out About Problems	1.2%	4.4%
Could Not Get Appointment With a Doctor	NA	1.4%
Reputation of the Clinic	NA	3.2%
No Time	6.6%	14.8%
Did Not Know Where to Go	0.7%	NA
Other	29.6%	9.6%

8.5 International Comparison

International comparisons of health care utilization rates and patterns show a high degree of variability. Nonetheless, it is useful to compare health care use in Egypt with other countries to get a sense of what share of the potential demand is being met by existing providers.

Compared to OECD countries, the use of hospital admission services in Egypt was significantly lower (Table 24). The hospital admission rate was only 0.31 of that of Japan and 0.13 of Finland's. However, the outpatient utilization rate in Egypt was not much lower than that in OECD countries. Given that OECD countries have a much higher per capita income, the level of outpatient use in Egypt is quite high.

In comparison with other low and middle income countries, Egyptians are above average users of outpatient services while somewhat lower in terms of hospital admission services. For example, Egyptians used fewer hospital admissions and outpatient services than individuals in China, even though the per capita income in China is half of that in Egypt. On the other hand, when compared to Indonesia, a country with a similar income level, Egyptians used fewer outpatient but more hospital admission services.

Table 24: International Comparison of Utilization Rate

Country	Hospital Utilization (Admission per 1000)	Outpatient Utilization (Visits per year per person)	GDP per capita (1991 US\$)	Year
Egypt	27	3.5	610	1995
OECD Countries				
Canada	147	6.8 (1989)	20440	1982
Finland	209	3.3 (1990)	23980	1983
France	118	8.0 (1991)	20380	1983
Germany	181	11.5 (1987)	23650	1982
Japan	86	12.9 (1988)	26,930	1992
Norway	149	5.7 (1988)	24220	1983
Sweden	192	2.8 (1990)	25110	1983
Switzerland	128	6.0 (1987)	33610	1982
UK	127	5.7 (1989)	16550	1981
USA	170	5.5 (1990)	22240	1981
Middle/Low Income Countries				
India	about 96	about 2	330	
China	36	4.40	360	1993
Sri Lanka	178	5.00	500	1991
Honduras	31	1.09	580	1988
Indonesia	17	0.32	610	1992
Guatemala	26	0.16	930	1987
El Salvador	40	0.23	1080	1986
Jamaica	33	2.10	1380	1987
Thailand	82	3.20	1570	1992
Cyprus	128	5.80	8640	1989

8.6 Women's Utilization of Health Services

8.6.1 Differences in Utilization Between Males and Females

Table 25 shows the differences in health care utilization between males and females for various age groups. For outpatient services, males and females have similar use rates below 16 and above 60 years old. Women of child-bearing age, however, have much higher utilization rates than men of a similar age. On the other hand, women have significantly lower hospitalization rates than men in all age groups, except those between 16 and 40 years old, which is largely accounted for by deliveries.

Table 25: Male/Female Utilization Differentials

	Outpatient Visits		Hospital Admissions	
	Male	Female	Male	Female
Age				
0–4	4.80	4.06	0.023	0.012
5–15	2.41	2.32	0.018	0.013
16–29	2.21	3.48	0.025	0.039
30–39	3.55	4.89	0.033	0.046
40–49	4.26	5.39	0.049	0.034
50–59	4.66	5.28	0.050	0.034
60+	4.92	4.86	0.038	0.025

8.6.2 Impact of Earning Capacity on Health Care Utilization by Women

Results in Table 26 suggest evidence for the “empowerment” hypothesis, which states that women with higher incomes tend to use more health care services. Women who were working at the time of the survey had significantly higher use rates than those not working. Working women used three times as much outpatient care, and twice as many hospital admission services, as their non-working counterparts. Among those women who were working, utilization rates increased significantly with wage rates. Not only does earning capacity increase women's utilization of health services, but their educational backgrounds also affect their children's use of health care. As shown in Table 27, children of mothers with university degrees had twice as many outpatient visits as those whose mother had only a primary education. This pattern is less evident for hospital admission use, partly because the analysis is limited by a relatively small sample size.

Table 26: Impact of Earning Capacity on Women's Utilization

	Outpatient Visits	Hospital Admissions
Currently Working	6.12	0.036
Currently Not Working	2.18	0.018
Wage Quintile		
Quintile Bottom	3.92	0.018
Quintile Second	2.27	0.014
Quintile Third	7.87	0.041
Quintile Fourth	7.28	0.041
Quintile Top	9.31	0.064

Note: The sample is based on women above 18 years of age

Table 27: Impact of Mother's Education on Children's Utilization

	Outpatient Visits		Hospital Admissions	
Mother's Education	Sons	Daughters	Sons	Daughters
Nursery	3.71	4.48	0.000	0.000
Primary	3.09	2.57	0.025	0.015
Preparatory	4.40	6.44	0.034	0.032
Secondary	4.37	5.08	0.019	0.022
Upper Intermediate	6.85	3.85	0.039	0.007
University	6.67	4.68	0.014	0.006
More than University	5.20	4.33	0.000	0.000

Note: The sample is based on women above 18 years of age

9. Choice of Provider by Health Care Service Users

Tables 28 and 29a present the health care utilization rates by type of provider. A three-way classification was used for services by government-affiliated entities. Facilities owned by the Ministry of Health and Population (MOHP) are listed separately. Facilities owned by all other ministries of government, such as Education (University Hospitals) or Defense (military hospitals) are called “Government.” All other public bodies, such as the Health Insurance Organization or Curative Care Organizations, are called “Public,” in keeping with current practice in Egypt. In Egypt, there is a clear differentiation in the roles of the various sectors in health care provision. The MOHP/Government sector is overwhelmingly preferred for inpatient care, while the private sector dominates outpatient services.

Table 28: Percentage Distribution of Outpatient Visits by Provider Type

Category	MOHP	Government	Public	Private	Mosque Clinics	Other
Income Quintiles						
Quintile 1: (<560 LE)	37.6%	3.5%	11.5%	44.0%	2.7%	0.7%
Quintile 2: (560–840)	25.8%	5.3%	10.7%	52.0%	5.1%	1.1%
Quintile 3: (841–1113)	21.5%	6.5%	8.8%	55.7%	6.4%	1.1%
Quintile 4: (1114–1704)	17.0%	8.3%	10.6%	54.9%	8.2%	1.0%
Quintile 5: (>1704 LE)	9.6%	6.3%	10.8%	63.9%	7.4%	2.0%
Gender						
Male	19.1%	8.4%	13.1%	52.6%	5.8%	1.1%
Female	20.6%	4.4%	8.2%	58.5%	6.9%	1.5%
Age						
0–4	24.3%	0.9%	2.3%	65.6%	5.5%	1.4%
5–15	23.4%	16.3%	11.0%	40.2%	7.4%	1.7%
16–29	20.2%	4.0%	8.6%	58.5%	7.5%	1.3%
30–39	19.4%	4.0%	13.1%	56.5%	5.6%	1.4%
40–49	17.5%	5.2%	16.8%	54.3%	5.1%	1.1%
50–59	13.9%	5.6%	12.9%	60.9%	5.6%	1.1%
60+	12.7%	2.0%	12.3%	65.5%	6.9%	0.7%
Education*						
Nursery	0.0%	3.9%	0.0%	92.2%	2.0%	2.0%
Primary	15.8%	2.1%	9.5%	67.3%	4.4%	0.9%
Preparatory	15.8%	3.2%	9.1%	64.9%	5.1%	1.6%
Secondary	9.8%	5.8%	15.5%	62.4%	5.3%	1.1%
Upper Intermediate	4.2%	0.0%	2.1%	86.3%	6.3%	1.1%
University	0.4%	1.2%	2.3%	94.6%	1.2%	0.4%
Post–Graduate	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Never Been in School	24.5%	1.2%	5.5%	62.1%	5.9%	0.9%
Total Sample	19.9%	6.2%	10.4%	55.8%	6.4%	1.30%

*Only individuals not currently in school and above 4 years old are included in the Education analysis.

Table 29a: Distribution of Hospital Admissions by Provider Type

Category	Ministry of Health Unit	Government	Public	Private	Cooperative
Income Quintiles					
Quintile 1: (<560 LE)	61%	21.3%	11.8%	2.4%	3.6%
Quintile 2: (560–840)	63.9%	15.2%	14.2%	3.9%	2.9%
Quintile 3: (841–1113)	56.2%	19.2%	13.7%	8.2%	2.7%
Quintile 4: (1114–1704)	49.7%	19.5%	18.2%	9.2%	3.1%
Quintile 5: (>1704 LE)	37.7%	18.2%	15.9%	23.9%	4.2%
Gender					
Male	46.4%	18.2%	21.4%	10.7%	3.4%
Female	58.0%	17.8%	9.5%	11.1%	3.6%
Age					
0–4	60.8%	21.5%	3.8%	11.4%	2.5%
5–15	49.1%	13.2%	23.6%	9.6%	4.6%
16–29	54.1%	21.5%	10.8%	10.8%	2.9%
30–39	54.2%	16.9%	15.4%	9.0%	4.5%
40–49	48.5%	15.2%	20.5%	12.9%	3.0%
50–59	47.1%	20.0%	20.0%	9.4%	3.5%
60+	54.4%	19.0%	6.3%	17.7%	2.5%
Education*					
Primary	65.9%	17.1%	0%	12.2%	4.9%
Preparatory	56.8%	35.1%	2.7%	2.7%	2.7%
Secondary	50.0%	28.6%	9.5%	9.5%	2.4%
Upper Intermediate	28.6%	28.6%	28.6%	14.3%	0.0%
University	0.0%	66.7%	0.0%	33.3%	0.0%
Total Sample	51.7%	18.6%	15.3%	11.0%	3.4%

*Only individuals not currently in school and above 4 years old are included in the Education analysis.

Figure 11a shows that MOHP/Government and public facilities account for 36 percent of outpatient visits, including 20 percent MOHP providers. The majority of outpatient visits were to private providers 56 percent. On the other hand, nearly 85 percent of all inpatient stays occurred in either a MOHP/Government or public facility, with inpatient stays in private facilities accounting for only 11 percent (Figure 11b). The predominance of the MOHP/Government and public facilities in the provision of inpatient services reflects that 90 percent of all hospital beds are in this sector (NHA 1995, Kemprecos, 1993). Even though the quality of care in MOHP/Government facilities is in general perceived to be not as good as in private facilities, cost considerations may have outweighed other factors in the choice of providers for inpatient care. If one assumes that the bulk of preventive and primary care is provided in an outpatient setting, then the private sector is the provider of choice for these services. Thus the government dominates the provision of hospital-based care while the private sector predominates in the provision of primary illness care. This finding has significant implications for public policy. If in general the objective of governments is to concentrate scarce resources on primary and preventive health care, the contrary is true for health care in Egypt.

Figure 11a: Choice of Provider—Outpatient Visits

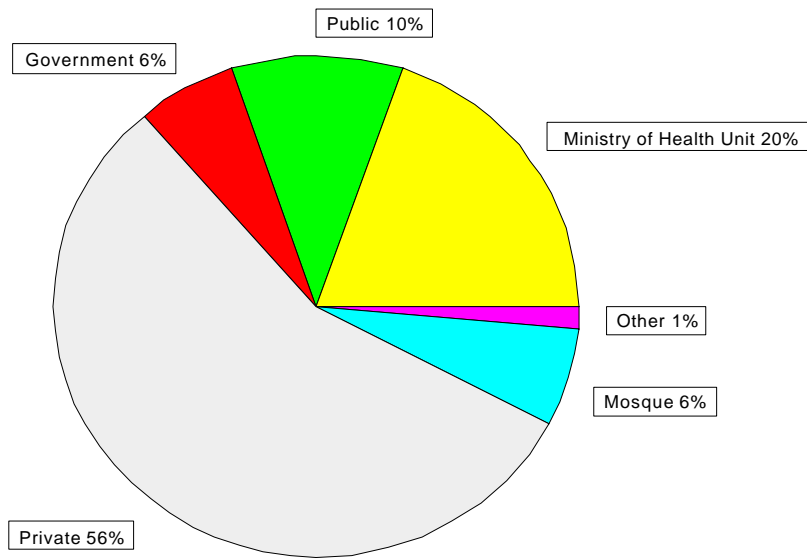
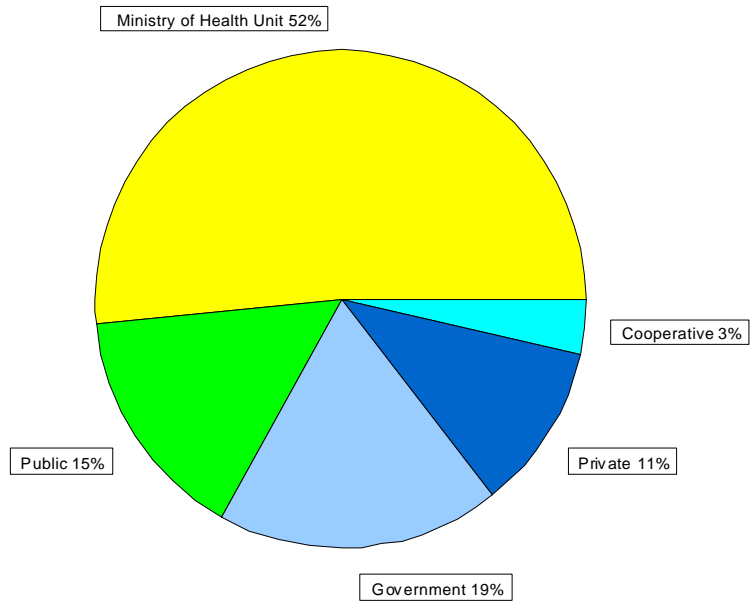


Figure 11b: Choice of Provider—Hospital Admissions



9.1 Choice of Provider by Geographic Regions

Figure 12a: Choice of Provider—Outpatient Consultations in Urban Areas

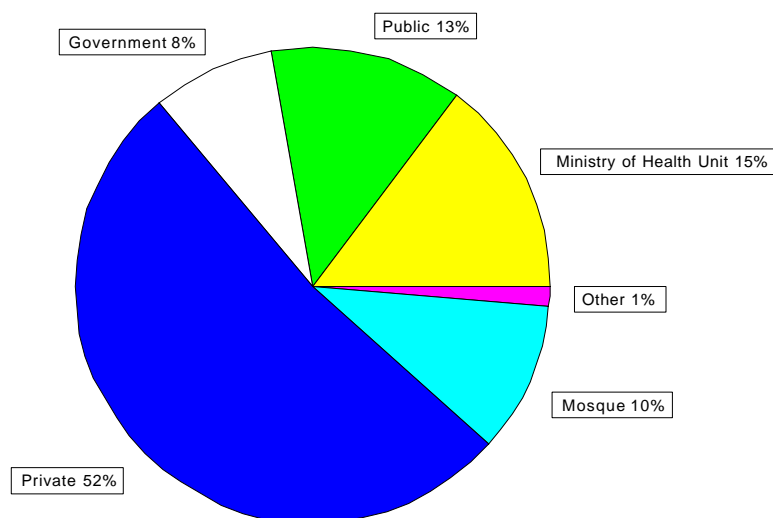


Figure 12b: Choice of Provider—Outpatient Consultations in Rural Areas

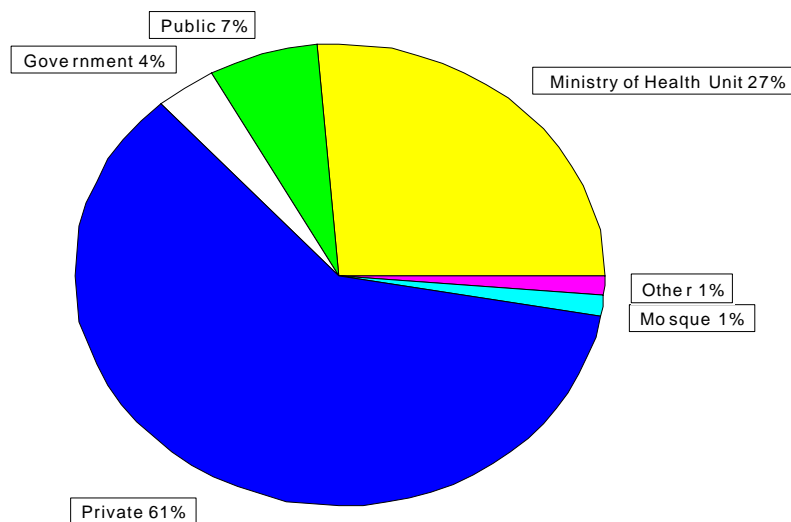


Figure 13a: Choice of Provider—Hospital Admissions in Urban Areas

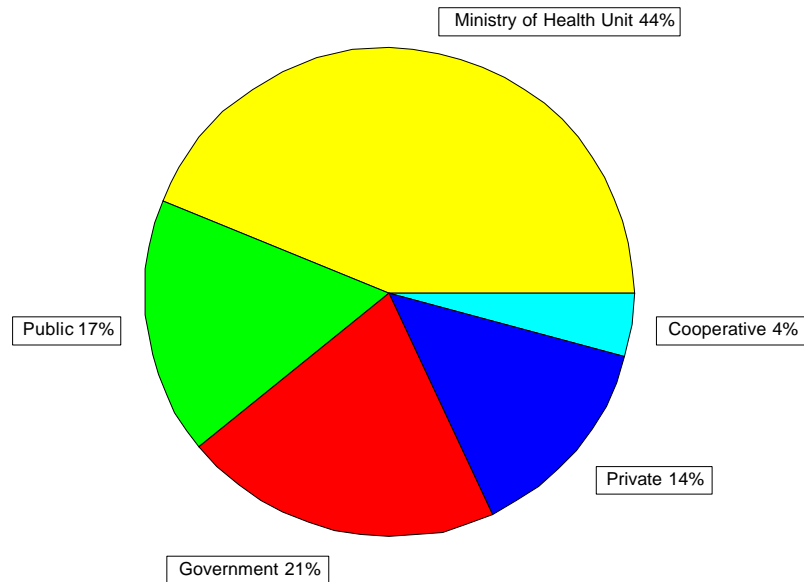
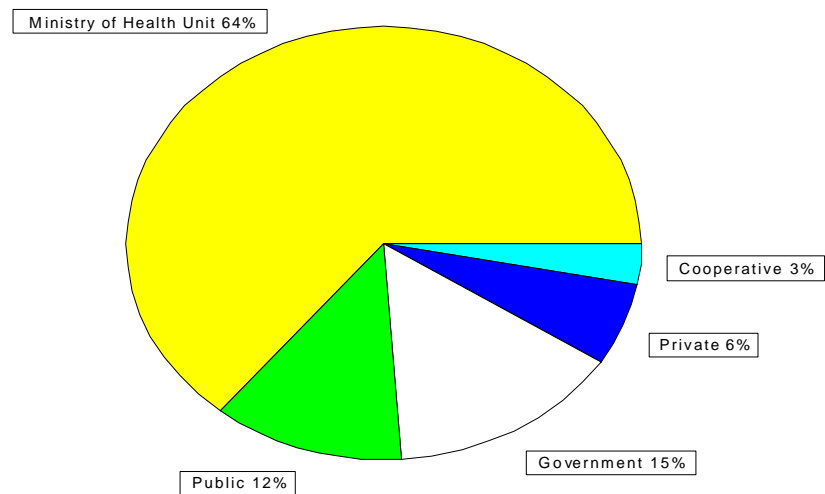


Figure 13b: Choice of Provider—Hospital Admissions in Rural Areas



Compared with their urban counterparts, rural residents were even more likely to go to private providers for outpatient care. However, it should be noted that for both urban and rural areas, a total of 62 percent of outpatient visits took place in either private clinics or mosque clinics. As there are few mosque clinics in the rural areas, people chose to go to private doctors rather than to public facilities. On the other hand, as the supply of public facilities fell in the rural areas, residents substituted public with MOHP providers.

For inpatient care, rural residents used more MOHP facilities and less public and private ones than urban residents. This is probably a result of both demand and supply side factors. Private facilities are more expensive than MOHP facilities and may not be affordable to a large portion of the rural population. Similarly, public facilities are scarce in the rural areas. Both these factors left rural individuals without much choice but to use MOHP hospitals.

9.2 Choice of Provider by Socio-Demographic Factors

9.2.1 Choice of Provider by Gender

Figure 14b shows that females are more likely to use private providers for outpatient services than males. Sixty-six percent of all female outpatient visits were to private providers or mosque clinics as compared to 58 percent for males (Figure 14a). However, males were more likely to use public facilities than females (13.1 percent versus 8 percent). This might be due to males being more likely to have insurance coverage through their employment than females. For inpatient services, men and women were equally likely to visit private facilities. However, relative to men, women were much more likely to be hospitalized at MOHP/Government than public facilities. Fifty-eight percent of hospitalizations for women occurred in MOHP hospitals, 18 percent in Government hospitals, and 10 percent in public facilities (Figure 15b). For men, only 46 percent of hospitalization took place at MOHP facilities, and 21 percent were in public facilities (Figure 15a).

Figure 14a: Choice of Provider—Outpatient Visits (Male)

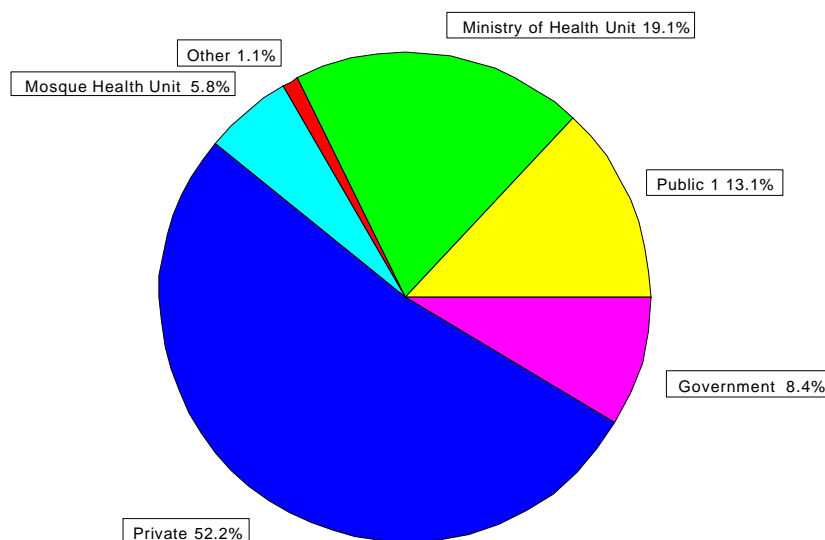


Figure 14b: Choice of Provider—Outpatient Visits (Female)

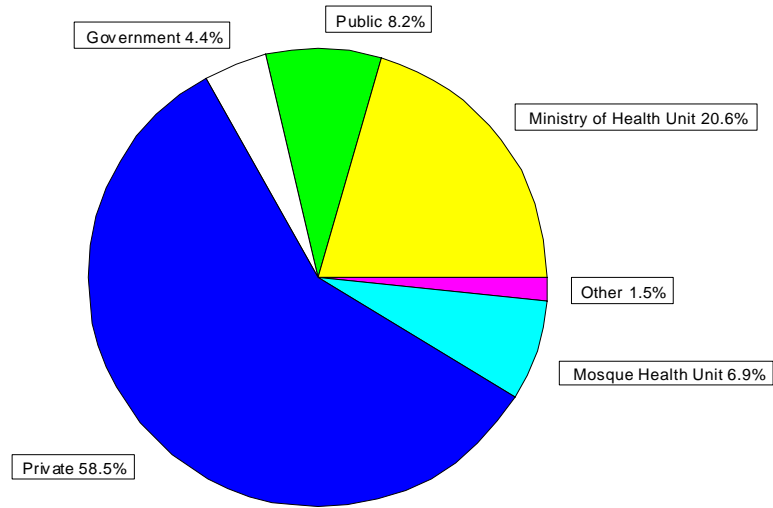


Figure 15a: Choice of Provider—Hospital Admissions (Male)

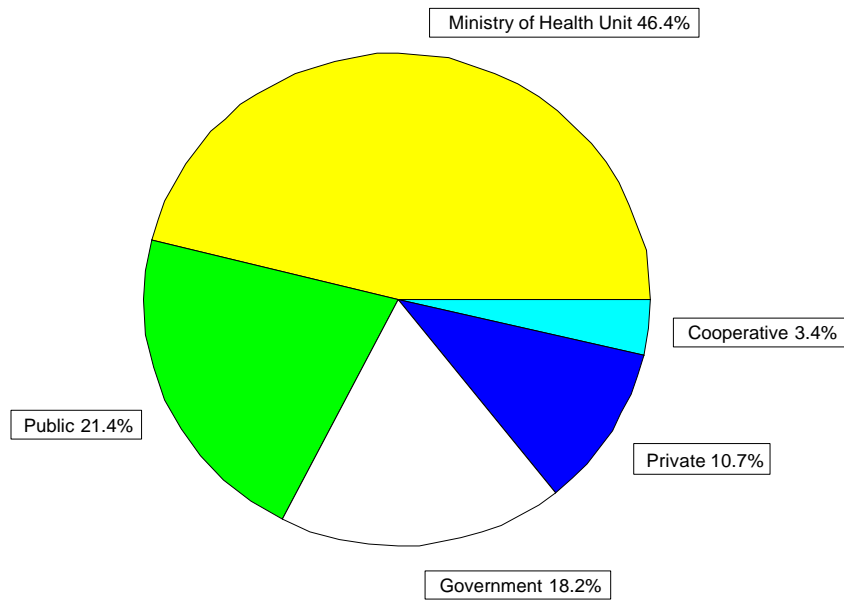


Figure 15b: Choice of Provider—Hospital Admissions (Female)

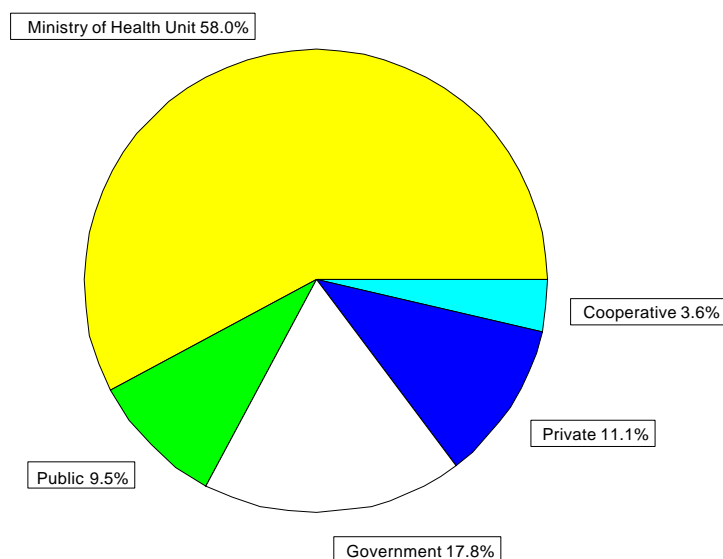
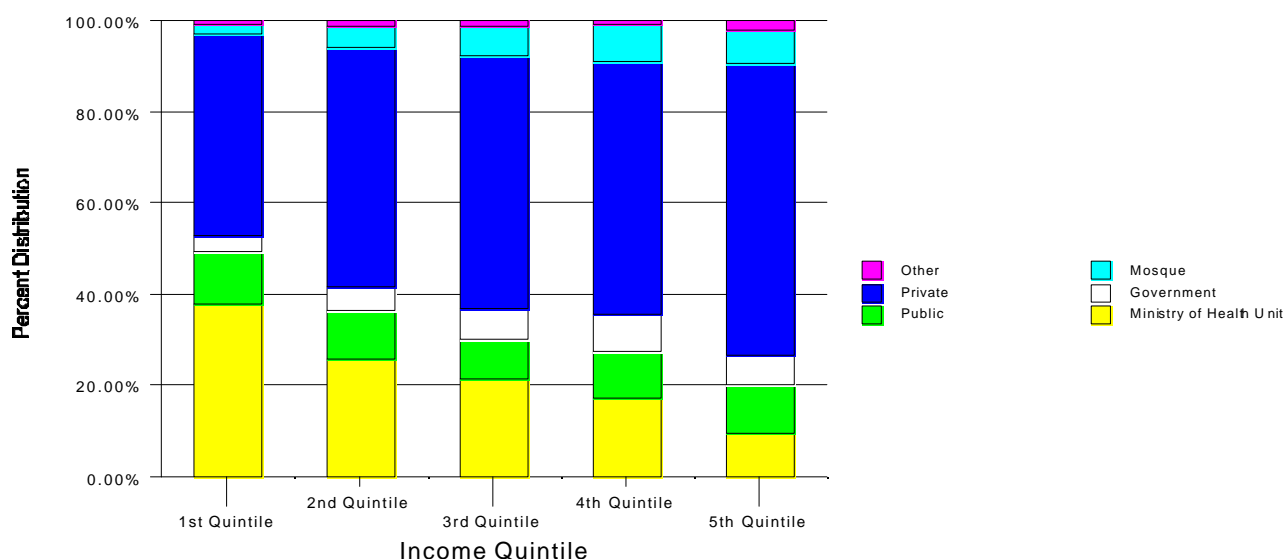


Figure 16 shows that while for each income quintile private providers are preferred for outpatient visits, the higher the income, the more likely it is that private providers are chosen. Sixty-four percent of outpatient visits by individuals in the highest income quintile were to private facilities, and only 16 percent were to MOHP/Government facilities. In contrast, individuals in the lowest income quintile had about 41 percent of their outpatient visits at MOHP/Government facilities, more than twice as likely as individuals in the highest income quintile. However, even for this income group, 44 percent of outpatient visits were to private providers, indicating the predominant presence of private providers of outpatient care in Egypt, regardless of income level.

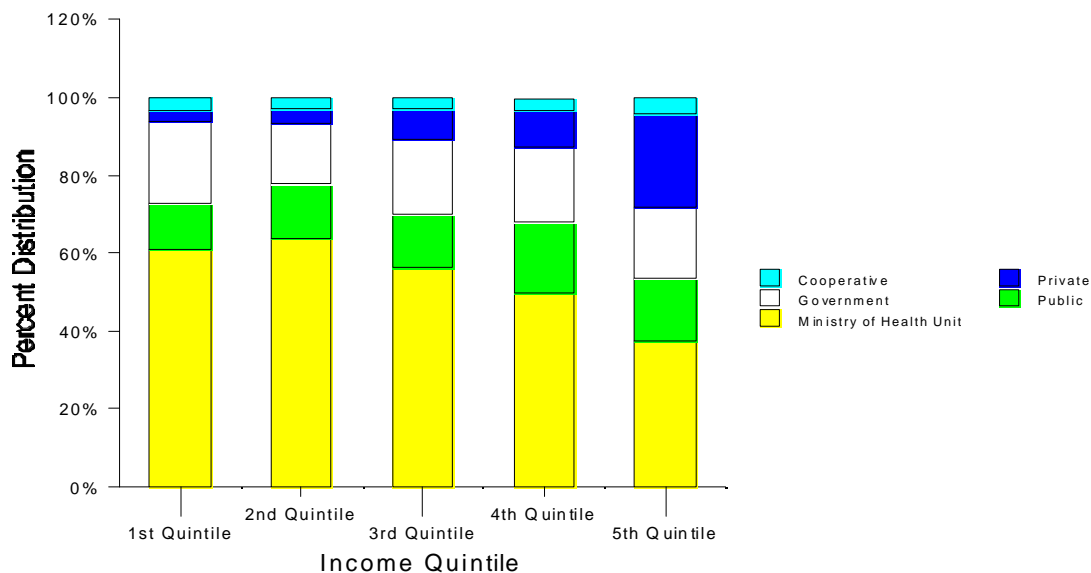
Figure 16: Choice of Provider—Outpatient Visits (By Income)



For inpatient services (Figure 17), MOHP/Government facilities were the provider of choice, but the demand for private care still significantly increased with income. Eighty-two percent of inpatient visits for individuals in the lowest income category took place in MOHP/Government facilities, and 6 percent in private/cooperative facilities. On the other hand, only 56 percent of hospitalizations for individuals in the highest income category were to MOHP/Government facilities, and 24 percent were to private providers (Figure 17).

The choice of government facilities for inpatient services might be due to various reasons, including the absence of other providers, the lower cost of care, an inability of households to pay for services in the private sector, and the fact that nearly 90 percent of all hospital beds in Egypt are in government and public facilities. Further analysis is required to find out what factors lead to the pattern of care observed in Egypt.

Figure 17: Choice of Provider—Hospital Admissions (By Income)



10. The Effects of Insurance Status on the Choice of Provider

Table 29b shows that individuals with insurance were more likely to use public facilities than Ministry of Health and Population (MOHP)/Government facilities for treatment or hospitalization. This is primarily because most health insurance in Egypt is provided by the Health Insurance Organization (HIO), which only covers services at HIO (public) facilities. However, it should be noted that even with insurance, 41 percent of individuals still choose private providers for outpatient treatment. Whether this is a result of differences in quality between public and private providers or other factors would require further analysis.

**Table 29b: Comparison of Choice of Provider for Those With or Without Insurance
(Excluding School Children)**

Outpatient			Hospital Admission	
	Insurance	No Insurance	Insurance	No Insurance
Ministry of Health	7.60%	19.96%	28.98%	60.5%
Public	32.22%	7.20%	36.1%	5.4%
Government	12.76%	1.54%	21.7%	18.8%
Private	41.11%	63.79%	9.4%	12.4%
Mosque	4.77%	6.49%	3.9%	2.9%
Other	1.55%	1.02%		
Total	100.00%	100.00%	100.00%	100.00%

11. Expenditures on Health Care

Table 30 shows that the average annual per capita health care expenditure is about 98.3 LE (or 504 LE per household). Of this, 64 percent is spent on outpatient care, 31 percent on self-purchased drugs, and 5 percent on hospital-based inpatient care. The figures reported here are for gross household out-of-pocket expenditures, not corrected for reimbursements by employers or insurance. Further analysis is being conducted to see if such corrections might be possible.

Table 30: Annual Expenditures on Health Services Per Capita (In LE)

	Outpatient	Hospital Admission	Drugs	Total
Total Sample	63.22	5.15	29.98	98.3
Urban	84.81	7.76	39.69	132.3
Rural	46.43	3.11	22.44	72.0
Regions				
Urban Governorates	98.79	10.92	41.36	151.1
Urban Lower Egypt	81.35	4.97	46.24	132.6
Rural Lower Egypt	52.14	3.86	30.35	86.34
Urban Upper Egypt	64.06	5.05	30.38	99.5
Rural Upper Egypt	39.58	2.22	12.95	54.8
Gender				
Male	57.81	5.35	26.87	90.03
Female	68.49	4.95	33.02	106.45
Income Quintiles				
Quintile 1: (<560 LE)	27.53	1.87	11.85	41.24
Quintile 2: (560–840)	39.04	1.93	18.25	59.22
Quintile 3: (841–1113)	48.36	1.88	21.20	71.44
Quintile 4: (1114–1704)	60.05	5.33	32.76	98.13
Quintile 5: (>1704)	141.10	14.73	65.87	221.70
Age				
0–4	61.79	1.97	6.93	70.7
5–15	27.36	1.75	6.21	35.3
16–29	48.79	5.00	10.36	64.1
30–39	75.31	9.61	35.01	119.9
40–49	117.12	8.88	64.40	190.4
50–59	120.82	13.92	107.67	242.4
60+	143.90	7.40	135.48	286.8
Education*				
Nursery	17.33	0.00	56.00	73.33
Primary	87.64	10.73	54.73	153.1
Preparatory	64.46	7.19	35.75	107.4
Secondary	99.04	9.52	39.00	147.56
Upper Intermediate	125.79	2.49	11.58	139.86
University	120.23	3.04	1.35	124.62
Never Been to School	61.28	2.30	32.92	96.5

*Only individuals not currently in school and above 4 years old are included in the Education analysis.

The results from this survey indicate higher health care expenditures than were found in previous studies. The Central Agency for Population Mobilization and Statistics (CAPMAS) household budget survey conducted in 1990–91 suggested that urban households spent LE 243 per year on health care with rural households spending LE 158. A limited study on private expenditures in a district of Giza conducted in 1992 (Kemprecos and Oldham 1992)¹ showed annual household expenditures on outpatient and inpatient services to be LE 375 (Kemprecos 1993) indicating that the CAPMAS study might significantly underestimate household spending. Other analyses (Badran 1993, NHA 1995) also show that CAPMAS figures underestimate household expenditures on health care by as much as 30 percent.

Urban individuals spent 132 LE per year on health care (595 LE per household), compared with 72 LE (399 LE per household) in rural areas (Figure 18). This means that urban individuals spent nearly 1.8 times as much annually on health care compared with rural individuals.

Previous studies (CAPMAS 1992) showed a lower level of difference between urban and rural household spending.

Figure 18: Annual Per Capita Health Expenditure by Urban/Rural

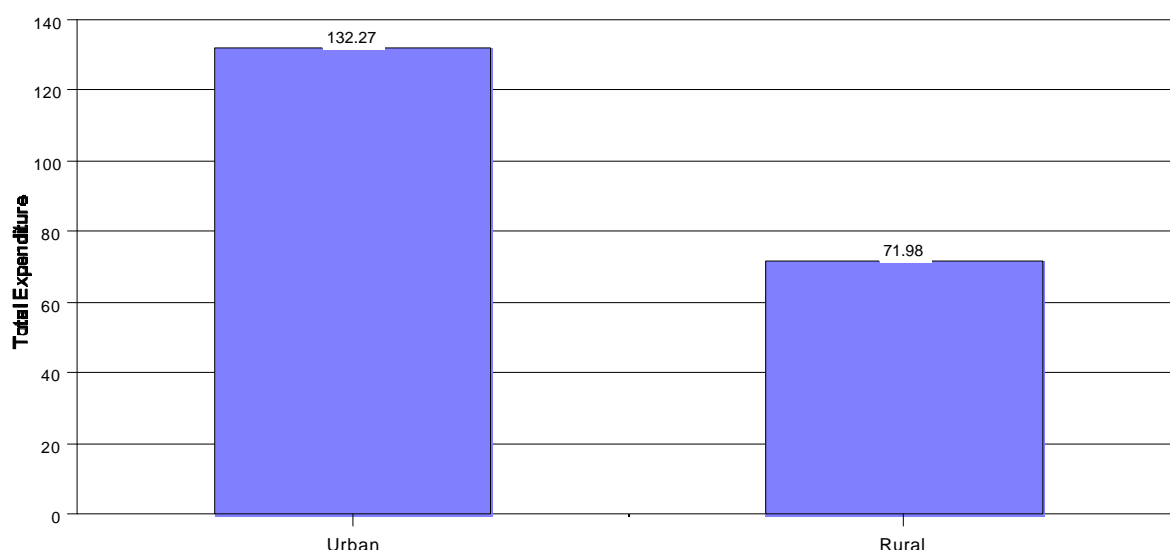
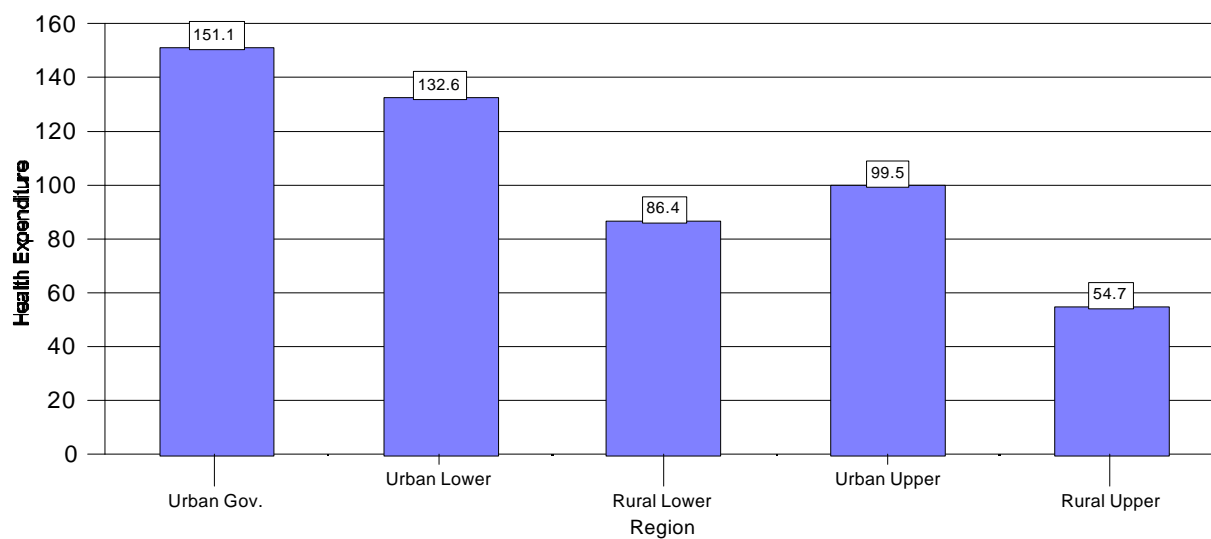


Figure 19 shows that there are large differences in health care spending across the different regions in Egypt. Individuals in urban governorates spend 151 LE per year on health care, as compared with 133 LE for individuals in Urban Lower Egypt governorates, and 99.5 LE for individuals in Urban Upper Egypt governorates. Individuals in Urban Governorates spent almost twice as much as individuals in Rural Lower Egypt, and three times as much as those in Rural Upper Egypt.

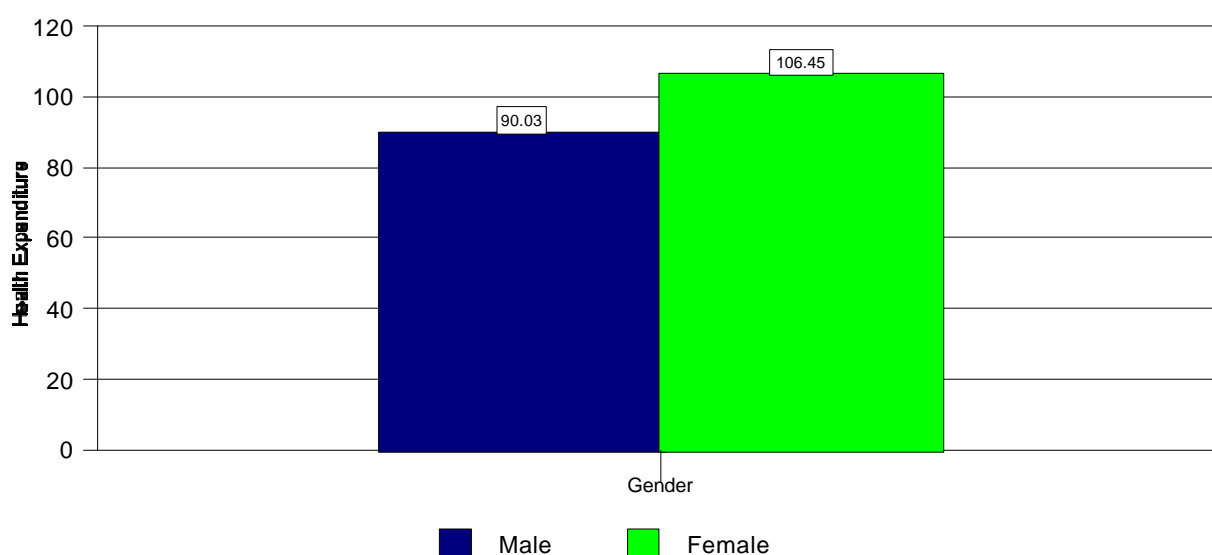
Figure 19: Annual Per Capita Health Expenditures by Region



12. Health Care Expenditure by Socio-Demographic Factors

12.1 Health Care Expenditure by Gender

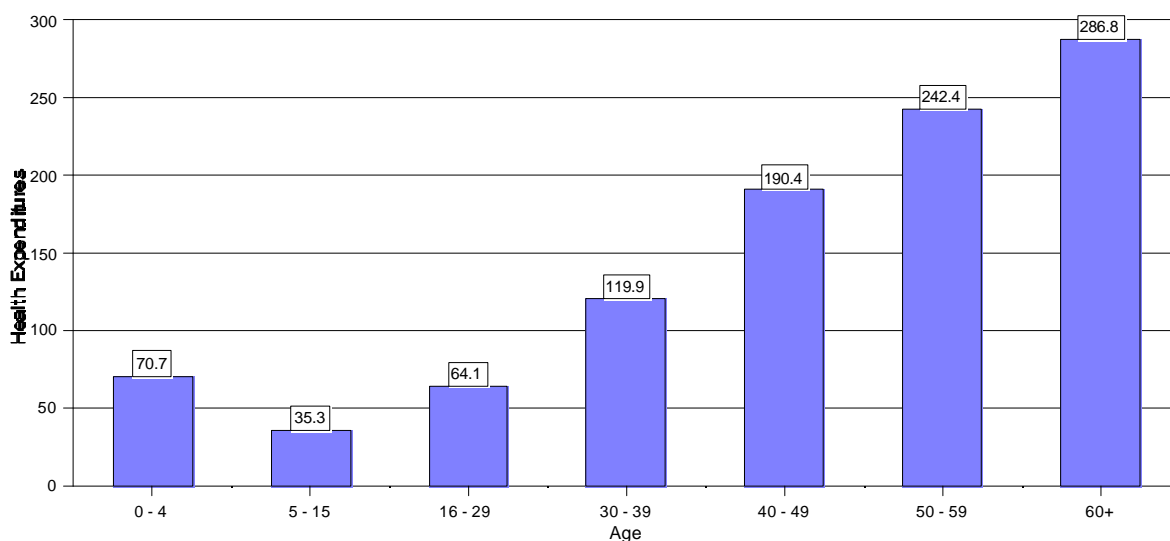
Figure 20: Annual Per Capita Health Expenditures by Gender



12.2 Health Care Expenditure by Age

Health care expenditure by age consistent with expectation, health care spending increases positively with age, except for children under four years old, who are in general high users of health care services (Figure 21). Even though individuals over 60 years of age had a lower rate of utilization than the 50–59 years old individuals (Figures 5 and 6), they are the highest spenders, probably reflecting severity of illnesses.

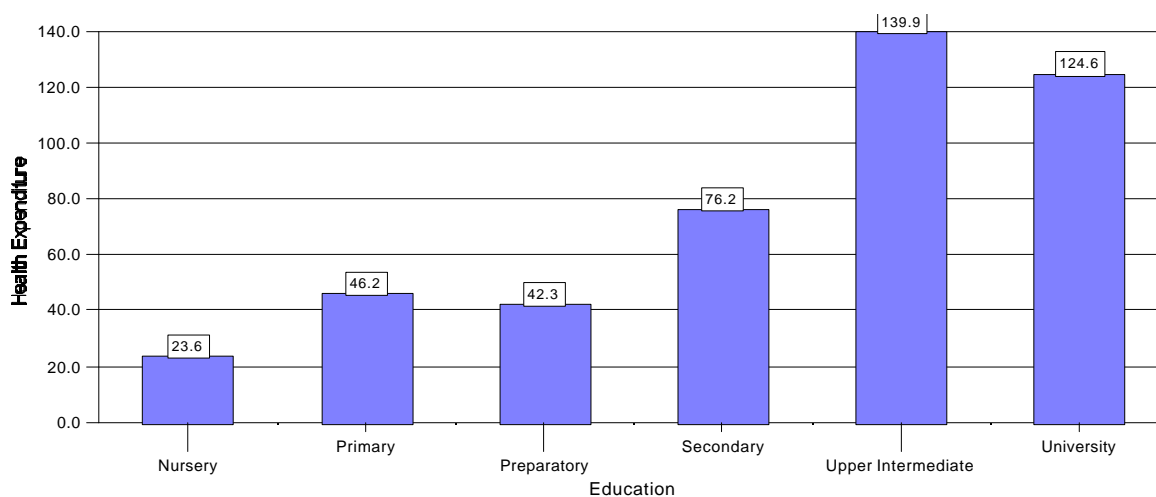
Figure 21: Annual Per Capita Health Expenditures by Age



12.3 Expenditure by Education

Health care expenditure by education level for individuals who are not currently enrolled in school does not exhibit any consistent pattern (Figure 22). However, the drug share of health expenditure is inversely related to level of education. This is probably due to a more generous drug benefit offered by Health Insurance Organization (HIO) insurance, and since individuals with higher levels of education were more likely to have HIO insurance, they tend to spend less on drugs. Individuals with lower levels of education seem to be more likely to rely on drugs for self-treatment, while those with higher levels of education tend to seek formal treatment for their health problems.

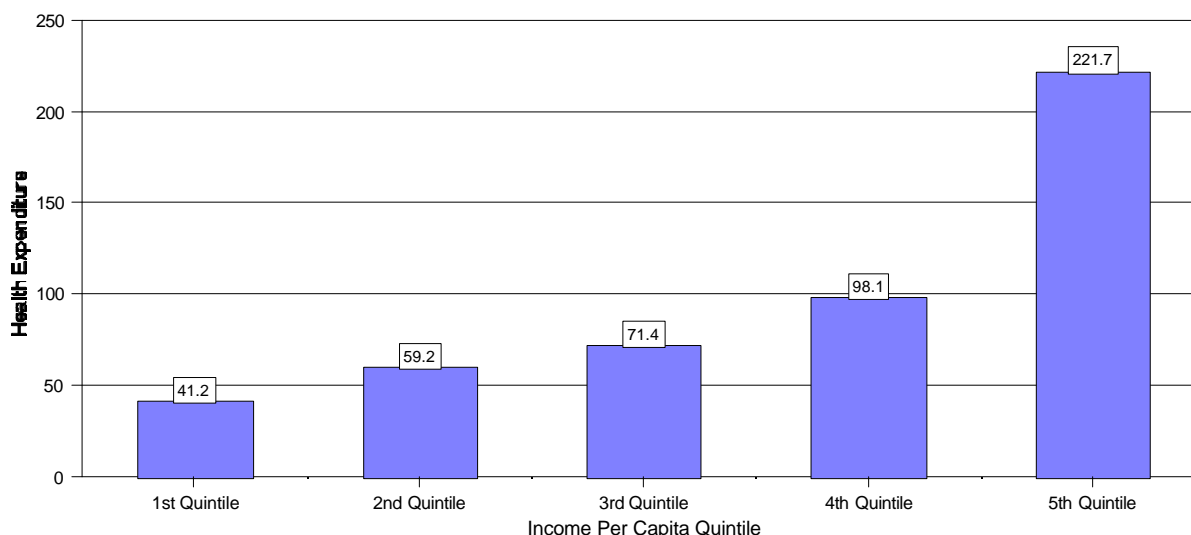
Figure 22: Annual Per Capita Health Expenditures by Education



12.4 Expenditure by Household Income

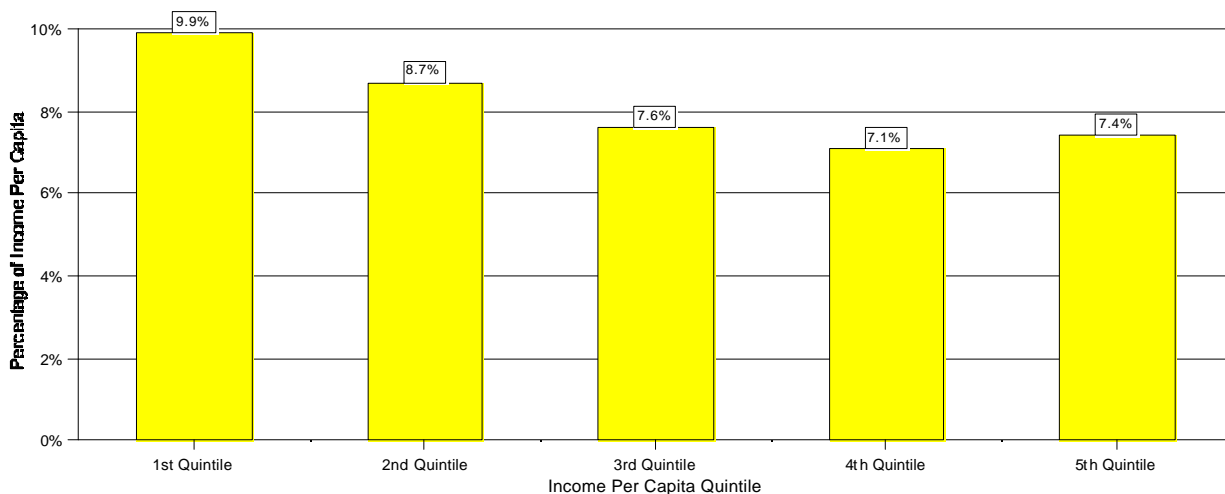
Income is positively related to health expenditures. Individuals with higher incomes tend to spend more on health care per year than individuals with lower incomes. Figure 23 shows that individuals in the highest income quintile spend the most. They spent more than twice as much as individuals in the next highest income quintile, and five times that of individuals in the lowest income quintile.

Figure 23: Annual Per Capita Health Expenditures by Income



Although the level of health care expenditures is positively related to income level, the share of income spent on health care is inversely related to income level. Figure 24 shows that individuals in the lowest income quintile spent the highest share of their income on health care. From an equity point of view, the poor bear a proportionately larger burden of health care spending.

Figure 24: Percentage of Per Capita Income Spent on Health Care



12.5 The Effect of Insurance Coverage on Health Care Expenditures

Table 31 shows the differences in health care expenditures by insurance status. Individuals with insurance spent slightly more than those without insurance coverage on health care. However, as Table 31 indicates, individuals covered by insurance had almost twice as many visits as those without insurance, implying that the out-of-pocket expenditure borne by individuals per visit is much less for those with insurance than those without coverage.

Table 31: Annual Averaged Health Expenditures by Individual Insurance Status

Expenditure	Insurance	No Insurance
Above 18 Years Old		
Outpatient	110.79	89.4
Hospital Admissions	12.65	7.78
Drugs	60.80	54.35
Total	184.24	151.60
Between 6–18 Years Old		
Outpatient	27.20	25.01
Hospital Admission	1.81	1.74
Drugs	5.76	5.98
Total	34.77	32.73

13. Seasonal Differences in Health Care Utilization and Expenditure

Table 32 shows that large seasonal differences exist in Egypt in health care utilization and expenditures for both outpatient and inpatient care. Egyptians use twice as much health care in the winter than in the summer. These differences however do not vary by urban/rural differences, region, or socio-demographic backgrounds. Whether these results are due to different disease patterns by seasons or other cultural reasons are not discernible from the data obtained in the survey.

Table 32: Seasonal Differences in Health Care Use and Expenditure Ratio of Winter to Summer Survey Results

	Outpatient Visits	Hospital Admission Visits
Total Sample	1.89	1.62
Urban	1.90	1.57
Rural	1.85	1.64
Regions		
Urban Governorates	1.61	1.55
Urban Lower Egypt	2.4	1.30
Rural Lower Egypt	2.26	1.50
Urban Upper Egypt	2.23	1.65
Rural Upper Egypt	1.43	1.83
Gender		
Male	2.00	1.75
Female	1.81	1.65
Income Quintiles		
Quintile 1: (<560 LE)	2.06	2.00
Quintile 2: (560–840)	1.64	1.71
Quintile 3: (841–1113)	2.38	1.72
Quintile 4: (1114–1704)	1.97	1.47
Quintile 5: (>1704)	1.79	1.57
Education*		
Nursery	1.14	0
Primary	1.83	1.63
Preparatory	2.58	1.61
Secondary	2.18	1.61
Upper Intermediate	0.65	4.43
University	2.10	0.45
Post-Graduate	0.0	
No Schooling	1.69	1.88

*Only individuals not currently in school and above 4 years old are included in the Education analysis.

14. Prices of Medical Services

Table 33a and 33b show the average out-of-pocket expenditure per visit or hospitalization by type of provider and region. These figures are direct payments for treatment only and do not include travel and other costs related to obtaining health care. It is evident that private providers charge significantly more than government providers for both outpatient and hospital admission care. The difference in expenditure by provider type is consistent across the board for outpatient care, whereas the difference varies much more for hospital admission care. These variations may have led to the differences in utilization rates across regions and income groups observed in earlier analyses of utilization and expenditures. One should note that the expenditure reported here is surprisingly high in the public sector (MOH, Public, and Government), given that these services are provided without a physician fee. The reported expenditures include drug purchases and other treatment expenditures, such as X-ray and lab tests, which are attributable to the reported high expenditures in public sectors.

Table 33a: Average Outpatient Expenditure per Visit (in LE)

	Ministry of Health	Public	Government	Private	Mosque	Other
All Areas	8.78	7.37	4.79	23.87	13.22	21.28
Urban	9.05	7.12	5.37	25.65	14.50	18.96
Rural	8.57	7.56	4.34	22.49	12.23	23.09
Urban Governorates	10.21	8.19	5.03	26.92	14.78	27.00
Urban Lower Egypt	7.62	4.07	5.67	24.5	13.95	12.09
Rural Lower Egypt	8.94	7.68	4.97	23.42	15.53	16.55
Urban Upper Egypt	7.80	7.01	6.41	24.63	13.37	15.26
Rural Upper Egypt	8.14	7.42	3.59	21.10	9.68	45.13

Table 33b: Average Hospital Admission Expenditures per Hospitalization (in LE)

	Ministry of Health	Public	Government	Private	Cooperative
All Areas	123.60	72.25	115.61	673.73	310.89
Urban	70.65	97.88	134.23	805.96	223.67
Rural	164.77	52.33	101.44	570.95	378.69
Urban Governorate	69.63	150.62	160.99	729.92	194.62
Urban Lower Egypt	54.56	53.37	6.59	1261.334	302.25
Rural Lower Egypt	245.01	32.94	36.91	282.5	486.29
Urban Upper Egypt	83.52	4.85	92.00	751.25	282.80
Rural Upper Egypt	53.59	94.72	162.45	1252.72	253.17

15. Quality of Care

The Egypt Household Health Care Use and Expenditure Survey (EHHUES) included an extensive list of questions on an individual's perception of the quality of health services in Egypt. These included general quality assessments as well as specific questions on patient satisfaction by types of provider.

15.1 General Perceptions of Quality

The first set of questions regard general assessments of the quality of the health care system. These questions were asked to a sample of individuals above 16 years of age. As Table 34 indicates, only 55 percent of the sample were satisfied with the medical care they received. Similarly, 44 percent thought there are serious problems with health care in Egypt today. Although a reasonably high percentage of individuals agreed that access to health care was not a problem (approximately 70 percent agreed there would be no problem of being admitted to a hospital or seeing a medical provider when needed), a significant number of individuals (57 percent) reported that they had to sometimes forego medical care due to high cost of services, and 70 percent felt that the waiting time was too long. This confirms results in the “Non-Utilization” section of this report, which showed that the cost of services was a primary barrier for many individuals to seek health care, despite the existence of public health care provisions which provide largely free medical services. This calls into question the role played by public facilities in providing equal access to health care for all people in Egypt. Most individuals, however, were in general satisfied with the cleanliness of the facilities and the aptitudes and competence of the medical staff.

Table 34: General Perceptions of Health Care Quality

	Yes	No	Do not know
If you need hospital care, you can be admitted without any trouble.	67.2%	23.7%	9.1%
You expect to wait for a long time before you see a health care provider.	70.3%	21.9%	7.8%
It is easy for you to receive medical care in an emergency.	62.2%	28.0%	9.8%
If you have a medical question, you expect that you can reach a health care provider for help without any problem.	73.0%	20.9%	6.1%
The place(s) you go for medical care are clean and satisfactory.	80.6%	15.5%	4.0%
The staff that treats you is friendly, cares about you and is well trained.	80.4%	15.1%	4.5%
Sometimes you go without medical care you need because it is too expensive.	57.2%	39.4%	3.4%
All things considered, you are satisfied with the medical care you receive.	54.9%	37.6%	7.5%
You think there is a serious problem with health care in Egypt today.	43.7%	35.7%	20.6%

16. Quality of Care By Provider Type

Results in the “Choice of Provider” and “Prices for Medical Services” sections showed that while medical expenditure was several times higher in the private than in the government and public sectors, a relatively high percentage of care took place in the private sector. To understand whether quality differences between the various types of providers led to the observed pattern of choice, the Egypt Household Health Care Use and Expenditure Survey (EHHUES) included questions which asked each individual where they would “likely” go if they had a minor illness, minor surgery, or major surgery. They were then asked if they would still go to the same provider if they could go anywhere else, and if not, where would they want to go? Since the question of where individuals would go if they could go anywhere removed the concern of cost, the response to this question reflected their preferences of providers, which in turn, can help us infer the quality of care by types of provider. The results are reported in Tables 35a–c.

Across all types of medical problems, individuals who were using private providers were consistently more likely to choose to stay with their current providers even if they were given a choice to switch, while Ministry of Health and Population (MOHP) users were most likely to switch. For minor illness, only 15 percent of private users expressed their wish to switch to another provider, while 41 percent of MOHP users would choose to do so. For minor and major surgeries, less than 10 percent of the private users would switch to another provider, while 33 percent of MOHP users would choose do so. In comparing those who would change providers, private users were more likely to switch to another provider in the private sector, while those who were using services in the non private sector, including MOH, public, government and mosque clinics, indicated their likely preference to switch to a private provider. These facts indicate that private providers were in general preferred over the MOHP and other public facilities. The data also indicate that public/Government and mosque clinics were almost equally preferred by individuals, and that these providers were also preferred over the MOHP facilities. However, it should be noted that a large proportion of individuals who indicated that they would like to switch to another provider did not know which provider they would like to go to. This may reflect a lack of information on the quality of care in the health care system, but it may also reflect that the current level of quality of health care in Egypt is below the expectation of its population.

Table 35a: Revealed Preferences for Provider Type—Minor Illness

		MOH	Public	Government	Private	Mosque	Other	Do not know
Where are you likely to go for medical care?		21.1%	8.9%	7.5%	36.1%	4.0%	1.2%	21.2%
If you could go anywhere, would it be to the same provider?	Yes	59.5%	74.3%	73.1%	85.2%	76.2%	75.4%	100.0%
	No	40.5%	25.7%	26.9%	14.8%	23.8%	24.6%	
If not, where would you go?	MOH	7.1%	5.2%	5.2%	4.4%	4.6%	7.0%	
	Public	2.8%	3.1%	2.9%	1.8%	3.9%	3.5%	
	Government	0.4%	0.6%	1.8%	0.6%	2.3%	0.7%	
	Private	30.0%	21.6%	23.6%	45.6%	29.2%	26.8%	
	Mosque	1.9%	3.8%	8.6%	2.3%	8.1%	2.8%	
	Other	0.2%	0.3%	0.5%	0.2%	0.4%	0.0%	
	Do not know	57.6%	65.4%	57.4%	45.1%	51.5%	59.2%	

Source: EHHUES, 1995

Ministry of Health: Urban hospitals, urban health units, rural hospitals, rural health units, and MCH centers owned and operated by the MOH

Public: Teaching hospitals, Health Insurance Organization (HIO), Curative Care Organization

Government: Other governmental units not included in the MOHP

Private: Private hospitals/clinics, private doctors, pharmacy

Mosque: Mosque/church health units

Others: Relatives/friends, barbers, nurse/hakima, sheikh/traditional healer, and others

Table 35b: Revealed Preferences for Provider Type—(Minor Surgery)

		MOH	Public	Government	Private	Mosque	Other	Do not know
Where are you likely to go for medical care?		28.9%	16.0%	6.1%	14.2%	1.8%	0.1%	32.9%
If you could go anywhere, would it be to the same provider?	Yes	66.6%	81.5%	80.5%	91.5%	85.0%	87.3%	100.0%
	No	33.4%	18.5%	19.5%	8.5%	15.0%	12.7%	
If not, where would you go?	MOH	6.1%	5.8%	4.6%	7.8%	6.9%	12.5%	
	Public	8.2%	6.5%	4.4%	4.3%	8.4%	12.5%	
	Government	0.5%	1.2%	2.2%	1.2%	2.3%	0.0%	
	Private	13.2%	12.7%	10.1%	29.5%		0.0%	
	Mosque	0.6%	2.9%	3.1%	0.8%	6.1%	0.0%	
	Other	0.0%	0.3%	0.3%	0.0%	0.0%	0.0%	
	Do not know	71.4%	70.6%	75.3%	56.4%	58.8%	75.0%	

Source: EHHUES, 1995

Ministry of Health: Urban hospitals, urban health units, rural hospitals, rural health units, and MCH centers owned and operated by the MOH

Public: Teaching hospitals, Health Insurance Organization (HIO), Curative Care Organization

Government: Other governmental units not included in the MOHP

Private: Private hospitals/clinics, private doctors, pharmacy

Mosque: Mosque/church health units

Others: Relatives/friends, barbers, nurse/hakima, sheikh/traditional healer, and others

Table 35c: Revealed Preferences for Provider Type—(Major Surgery)

		MOH	Public	Government	Private	Mosque	Other	Do not know
Where are you likely to go for medical care?		26.2%	18.1%	5.8%	10.6%	0.7%	0.1%	38.5%
If you could go anywhere, would it be to the same provider?	Yes	67.3%	81.8%	81.4%	93.5%	86.0%	83.7%	100.0%
	No	32.7%	18.2%	18.6%	6.5%	14.0%	16.3%	
If not, where would you go?	MOH	3.7%	4.1%	3.0%	7.6%	9.8%	12.5%	
	Public	9.2%	6.2%	3.3%	8.2%	11.8%	12.5%	
	Government	0.5%	0.7%	2.4%	0.6%	3.9%	0.0%	
	Private	11.3%	11.7%	9.3%	27.9%	9.8%	12.5%	
	Mosque	0.4%	1.6%	0.9%	1.5%	2.0%	0.0%	
	Other	0.1%	0.1%	0.4%	0.0%	0.0%	0.0%	
	Do not know	74.8%	75.6%	80.7%	54.2%	62.7%	62.5%	

Source: EHHUES, 1995

Ministry of Health: Urban hospitals, urban health units, rural hospitals, rural health units, and MCH centers owned and operated by the MOH

Public: Teaching hospitals, Health Insurance Organization (HIO), Curative Care Organization

Government: Other governmental units not included in the MOHP

Private: Private hospitals/clinics, private doctors, pharmacy

Mosque: Mosque/church health units

Others: Relatives/friends, barbers, nurse/hakima, sheikh/traditional healer, and others

To understand further specific aspects of the differences in quality between providers, individuals who had visited a clinician within the past two weeks (or had been admitted to a hospital within the past year) were asked about specific aspects of the quality of care they received. Responses to these questions were therefore based on actual experience with a specific provider. The results are reported in Tables 36 and 37.

For outpatient visits, 91 percent of individuals who had visited a private provider within the past two weeks of the interview were satisfied with the quality of care, while only 77 percent of those visiting a government or other public provider were satisfied with the care they received. In particular, private patients were more satisfied with the time their physicians spent with them than government/public patients. Similarly, private patients were more satisfied with treatment by the staff. Forty-seven percent of private patients rated the treatment by the staff to be “excellent” or “very good,” while only 25–30 percent of government/public patients responded so. There were no significant differences in the ratings of the three types of providers with respect to other aspects of the quality of care. In general, individuals were satisfied with the staff, equipment and the cleanliness of the facilities. Similarly, they agreed that clinic days and available hours were relatively convenient, even though when an appointment was required, it took longer to get one with a government provider (4.9 days) than with a public (3.3 days) or private (2.4 days) provider.

For hospitalizations, 96 percent of patients going to a private facility were satisfied with the quality of services provided, while 83 percent of patients hospitalized at a government/public facility were satisfied with the care they received. Private providers on average were rated better on all aspects of quality of care that were included in the questionnaire. For example, it was found that physicians in private hospitals were more likely to discuss the patient's problem and treatment with them than in the other sectors. Similarly, almost 60 percent of private patients rated the staff and the cleanliness of the clinic or hospital to be “excellent” or “very good”, compared to 40 percent for public facilities, and 25 percent for government/MOHP facilities. It should be noted that although the government/public hospitals were rated less favorably by patients relative to their private sector counterparts, the level of satisfaction on the different aspects of quality of care reported for this provider group was in general quite high.

These results seem to indicate that, in general, people prefer the private to the public/government providers. However, the specific aspects of the quality of care that led to such results do not seem to have been adequately captured by the questions in this survey and may warrant a further research effort in this area.

Table 36: Comparison of Quality of Care by Provider Type—(Outpatient Visits)

	MOHP/ Government					Public					Private				
	Yes		No	DK/ Missing		Yes		No	DK/ Missing		Yes		No	DK/ Missing	
Are you satisfied with the quality of services offered at:	77.5%		22.4%	0.1%		78.0%		22.0%	0.0%		91.0%		3.6%	5.4%	
Did the physician spend enough time with you?	73.0%		24.7%	2.6%		71.0%		25.8%	3.4%		89.7%		3.7%	6.5%	
Do you think that the staff number is adequate to meet the clients needs?	80.0%		11.6%	18.5%		79.0%		11.8%	9.3%		83.3%		4.1%	12.6%	
Was the examination room clean?	92.0%		4.9%	2.7%		91.6%		5.3%	3.0%		88.8%		1.4%	9.8%	
Was the waiting room clean?	86.0%		8.7%	5.5%		87.0%		8.0%	5.7%		87.5%		2.1%	10.3%	
Was the toilet clean?	55.0%		11.2%	33.4%		56.0%		11.0%	32.8%		65.7%		2.3%	32.0%	
Was the equipments clean?	87.0%		4.7%	8.4%		88.0%		4.0%	8.9%		87.3%		0.9%	11.8%	
Was the appearance of staff clean?	89.0%		6.1%	4.9%		87.0%		7.0%	5.5%		87.2%		1.5%	11.3%	
Did you wait in a waiting area?	63.0%		36.3%	1.1%		72.0%		27.0%	0.7%		80.0%		11%	9.1%	
Did you find a seat?	71.0%		19.5%	19.0%		79.0%		14.0%	14.0%		82.9%		0.2%	5.5%	
Was the medical examination conducted in a private room?	87.0%		11.7%	1.1%		89.0%		10.0%	0.7%		90.0%		0.9%	9.1%	
Are the working days convenient for you?	50.0%		3.6%	46.0%		56.0%		4.0%	40.0%		51.3%		1.8%	47.0%	
Are the working hours convenient for you?	91.0%		8.0%	0.9%		91.0%		9.0%	0.7%		92.0%		3.9%	4.2%	
Did you need a prior appointment?	3.0%		96.3%	1.1%		8.0%		91.0%	0.7%		8.4%		82.5%	9.1%	
	Average					Average					Average				
How long does it take for an appointment? (days)	4.85					3.33					2.35				
How long did you wait to be examined? (minutes)	41.88					59.64					40.48				
	EX	VG	GD	SA	PR	EX	VG	GD	SA	PR	EX	VG	GD	SA	PR
What is your opinion about the treatment of the staff to the patient?	10.0%	15.0%	56.0%	11.0%	8.8%	12.0%	17.0%	50.0%	13.0%	8.0%	21.5%	25.2%	41.1%	2.4%	9.7%

EX–Excellent VG–Very Good GD–Good SA–Satisfactory PR –Poor

Table 37: Comparison of Quality of Care by Provider Type—(Hospital Admissions)

	MOHP/ Government					Public					Private				
	Yes	No	DK/Missing			Yes	No	DK/ Missing			Yes	No	DK/ Missing		
Are you satisfied with the quality of services offered at this hospital?	82.6%	17.4%	0.0%			82.3%	17.7%	0.0%			95.7%	4.3%	0.0%		
Did a nurse/hakima assist the doctor during your stay in the hospital?	93.1%	6.9%	0.0%			92.4%	7.6%	0.0%			97.1%	2.9%	0.0%		
Did the doctor discuss with you: * your condition	82.2%	17.8%	0.0%			82.3%	17.7%	0.0%			92.8%	7.2%	0.0%		
* treatment	76.1%	23.9%	0.0%			75.3%	24.7%	0.0%			86.6%	13.4%	0.0%		
* side effects	33.4%	66.6%	0.0%			32.3%	67.7%	0.0%			44.5%	55.5%	0.0%		
Did the doctor spend enough time with you?	85.6%	11.9%	2.5%			83.2%	14.1%	2.6%			88.8%	9.7%	1.5%		
Was the number of staff enough and adequate to meet the patients' needs?	85.6%	7.8%	6.6%			86.9%	6.8%	0.0%			93.7%	3.4%	2.9%		
Were staff member always available during their working hours?	84.5%	8.7%	6.9%			80.6%	12.0%	7.3%			88.8%	4.4%	6.8%		
Have you been mistreated by any of the staff there?	20.9%	79.1%	0.0%			21.2%	78.8%	0.0%			11.5%	88.5%	0.0%		
Is the location of the hospital convenient for you?	78.9%	21.1%	0.0%			83.3%	16.7%	0.0%			78.9%	21.1%	0.0%		
How clean and ordered were:	EX	VG	GD	SA	PR	EX	VG	GD	SA	PR	EX	VG	GD	SA	PR
Bath room	11.4%	13.5%	46.0%	13.6%	15.5%	21.2%	16.2%	38.9%	15.2%	8.6%	40.7%	19.6%	31.1%	3.8%	4.8%
Bed sheets	10.9%	15.4%	47.1%	12.4%	14.2%	21.2%	16.7%	39.9%	13.1%	9.1%	39.7%	16.7%	37.8%	2.9%	2.9%
The room	10.9%	14.6%	51.5%	12.5%	10.5%	21.2%	16.7%	43.4%	13.6%	5.1%	41.6%	15.3%	37.3%	5.3%	0.5%
Food	8.4%	10.9%	49.5%	16.6%	14.5%	17.2%	14.1%	40.4%	20.7%	7.6%	37.8%	13.4%	34.9%	11.0%	2.9%
Support staff	11.2%	13.9%	52.9%	12.3%	9.7%	21.2%	16.2%	44.4%	11.1%	7.1%	39.2%	16.3%	36.4%	6.2%	1.9%
Nursing	11.6%	15.3%	52.9%	12.0%	8.1%	24.2%	16.2%	44.4%	10.1%	5.1%	40.2%	14.8%	38.8%	4.8%	1.4%

Ex—Excellent VG—Very Good GD—Good SA—Satisfactory PR—Poor

Annex A: Sample Information

Data Quality

Total Sample:	49,812.00
---------------	-----------

Gender

Male Sample Size:	24,600.00	49.39%
Female Sample Size:	25,212.00	50.61%

Age

Sample Size	49,812.00	
0–4	6,351.00	12.75%
5–15	15,649.00	31.42%
16–29	11,467.00	23.02%
30–39	577.00	11.58%
40–49	4,514.00	9.06%
50–59	2,879.00	5.78%
60+	3,181.00	6.39%
Missing:	1.00	0%

Marital Status

Sample Size:	49,812.00	
Married:	17,108.00	61.5%
Widowed:	2,326.00	8.36%
Divorced:	264.00	0.95%
Never married/signed contract:	8,119.00	29.19%
Missing:	21,995.00	44.16%

Working Status of Woman Over 18 Years Old

Working currently:	1,959.00	14.53%
Worked previously/not currently:	960.00	7.12%
Never worked:	10,563.00	78.35%

Health Perception

Sample Size:	49,812.00	
Excellent:	1,822.00	3.66%
Very good:	10,245.00	20.57%
Good:	26,657.00	53.52%
Satisfactory:	7,665.00	15.39%
Bad:	3,423.00	6.87%

Level of Education

Sample Size:	29,799.00	
Never been to school:	16,123.00	54.11%
Nursery:	30.00	0.1%
Primary:	6,599.00	22.15%
Preparatory:	2,220.00	7.45%
Secondary:	4,330.00	14.53%
Upper intermediate:	198.00	0.66%
University:	290.00	0.97%
More than university:	8.00	0.03%
Don't know:	1.00	0.00%

Outpatient Expenditure

Sample Size:	4,621.00	9.28
Mean:	681.43 LE	
Standard Deviation:	1,574.88 LE	
Range:	0–5,2000 LE	

Inpatient Expenditure

Sample Size:	1,224.00	2.46%
Mean:	209.45 pound	
Standard Deviation:	811.35 pound	
Range:	0–1,2000.00 pound	

Drug Expenditure

Sample Size:	5,147.00	10.33%
Mean:	290.182 LE	
Standard Deviation:	581.52 LE	
Range:	0–11940 LE	

Outpatient Visits

Sample Size:	4648	9.33%
Mean:	37.58 visits	
Standard Deviation:	24.35 visits	
Range:	26–312 visits	

Inpatient Visits

Sample Size:	1224	2.46%
Mean:	1.12 visits	
Standard Deviation:	0.40 visits	
Range:	1–6 visits	

Annual Household Expenditure

Sample Size:	49812	
Mean:	7967.46 LE	
Standard Deviation:	8150.63 LE	
Range:	264–119940 LE	

Annex B: Bibliography

- Azer, A. and Affifi, E. 1992. "Social Support Systems for the Aged in Egypt." Tokyo: United Nations Press.
- Badraan, A. 1989. "Structural Adjustments in Health Sector to Protect Vulnerable Groups." A report prepared by the Third World Forum for UNICEF. Cairo.
- Cohen, N. 1981. "Smoking, Health and Survival: Prospects in Bangladesh." *Lancet* 1:1090-93.
- Jeffers, James. 1982. "Health Policy Review." Prepared for the Office Health/USAID/Cairo as part of the 1982 Health Sector Assessment Phase I, Cairo.
- Kemprecos, L. 1993. *Health Care Financing in Egypt*. Reston, VA: Cambridge Consulting Corporation.
- Kemprecos, L. and Oldham, L. 1992 *Economic Surveys for Health Financing and Sustainability: Final Report*. Report prepared for the Cost Recovery for Health Project, Cairo.
- Royal College of Physicians. 1983. "Health or Smoking?" London: Pitman.
- Stanley, K. 1993. "Control of Tobacco Production and Use." In *Disease Control Priorities in Developing Countries*. London: Oxford University Press.
- United Nations. 1993. "World Population Prospects." *Population Studies*. New York.
- United States Department of Health and Human Services. 1985. "A Decision Makers' Guide to Reducing Smoking at the Worksite." Office of Disease Prevention and Health Promotion, and Office on Smoking and Health. Washington.
- World Health Organization. 1986. "Tobacco or Health?" Geneva.